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THE JOURNAL

OF THE

ROYAL ANTHROPOLOGICAL INSTITUTE

OF

GREAT BRITAIN AND IRELAND.

VOL. LVII.

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NOTICE.

For convenience of reference, all volumes of the new (imperial octavo) series which began in 1898 are numbered in continuation of the old demy octavo series, Vols. I–XXVII. Thus Vol. I of the imperial octavo series = Vol. XXVIII of the old series, and the present Vol. LVII corresponds to N.S. Vol. XXX.

The Index to the present volume includes an index to the Institute's monthly publication MAN for the year of issue 1927.

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JOURNAL

OF THE

ROYAL ANTHROPOLOGICAL INSTITUTE

OF GREAT BRITAIN AND IRELAND.

MINUTES OF THE ANNUAL GENERAL MEETING.

TUESDAY, JANUARY 25TH, 1927.

HELD AT 52, UPPER BEDFORD PLACE.

MR. H. J. E. PEAKE, M.A., *President, in the Chair.*

The Minutes of the last Annual General Meeting were read and confirmed.

The PRESIDENT appointed Miss DURHAM and Capt. L. W. G. MALCOLM as Scrutineers, and declared the ballot open.

The HON. SECRETARY read the Report of the Council for 1926, which was accepted.

The HON. TREASURER read the Financial Report for 1926, which was also accepted.

The PRESIDENT then read his Address on "The Beginnings of Civilization."

The SCRUTINEERS delivered their Report, and the following were declared duly elected as Officers and Council for 1927–28 :—

President.—H. J. E. Peake. M.A., F.S.A.

Vice-Presidents.

C. O. Blagden. M.A.
P. E. Newberry. O.B.E., M.A.
R. W. Williamson. M.Sc.

Hon. Secretary.—E. N. Fallaize. B.A.

Hon. Treasurer.—[1]

Hon. Editor.—H. J. Braunholtz. M.A.

Council.

M. C. Burkitt, M.A.
L. H. Dudley Buxton, M.A.
L. C. G. Clarke.
G. A. Garfitt.
Prof. R. Ruggles Gates, Ph.D.
H. S. Harrison. D.Sc.
T. A. Joyce. O.B.E., M.A.
B. Malinowski, D.Sc.
Miss M. A. Murray.
C. S. Myers, M.A., M.D.
Prof. J. L. Myres, M.A., D.Sc., F.B.A.
Prof. F. G. Parsons. F.R.C.S.
S. H. Ray. M.A.
F. J. Richards, M.A.
Mrs. C. G. Seligman.
F. C. Shrubsall, M.A., M.D.
Rev. E. W. Smith.
H. S. Stannus, M.D.
E. Torday.
S. Hazzledine-Warren. F.G.S.

A hearty vote of thanks to the President for his Address was proposed by Professor C. G. SELIGMAN and seconded by Dr. HADDON, who asked in the name of the Institute that the President would allow it to be published in the Institute's *Journal*, and this was carried by acclamation.

The Institute then adjourned.

[1] Temporarily vacant. Dr F C Shrubsall was subsequently appointed Acting Hon. Treasurer by the Council.

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REPORT OF THE COUNCIL FOR THE YEAR 1926.

DURING the year 1926, the work of the Institute has shown marked signs of increase in volume, owing in part to the greater interest in Anthropology taken by the general public, and in part to the improvement in publications and in the greater facilities for the use of the Library which have been made possible by the additional space at the Institute's disposal in the House, and especially by the generous financial assistance received from the Laura Spelman Rockefeller Fund.[1]

The increase in the number of Fellows is steadily maintained. The net figures show an advance over those of last year. The gross figure, it is true, shows a decrease of 2 in the elections of Ordinary Fellows, but, had it not been for an accidental delay in the receipt of several nominations, which necessitated the postponement of election until after the period for which the figures are made up, the total number of Ordinary Fellows elected would also have shown a large increase. Financially, as will be seen from the Treasurer's Report, the position of the Institute is sound.

The number of Fellows, and the corresponding figures for 1925 are as follows :—

	Total, Jan. 1st, 1926.	Loss by death or resignation.	Since elected.	Total, Jan. 1st, 1927.
Honorary Fellows	36	1	2	37
Local Correspondents	18	—	—	—
Deduct Ordinary Fellows ...	2			
	— 16	—	—	16
Affiliated Societies	4	—	—	4
Ordinary Fellows :—				
Compounding	47	2	—	45
Subscribing	557	17	57	597
	660	20	59	699

Although an obituary notice of Sir William Ridgeway has appeared in *Man*, the Council cannot refrain from an additional expression here of its deep regret at his death. The loss of Sir William Ridgeway's whole-hearted devotion to the

[1] By a typographical error, the amount of the grant received was given erroneously in last year's Report as $175,000. It should have been $17,500.

cause of anthropological science, and his single-minded support of the Institute on every possible occasion, will long be deplored.

Premises.

The tenancy by the Eugenics Education Society of an upper floor of the premises terminated in September last. The rooms then vacated have not been let since that date, nor is it felt desirable for the present to seek a new tenant. The financial situation warrants the Council in reserving part of the space vacated for the increased work of the Institute. Rooms are required for storing photographs and lantern slides, one is in use as an additional reading-room and smaller lecture-room, while the hospitality of another has been extended to the Folklore Society for secretarial work. The British Psychological Society and the British Philosophical Society have met at the Institute during the past year.

The Housing Fund.

A further appeal to Fellows to meet the deficit of £700 on the Housing Account was issued in the course of the year. Up to the present a sum of £130 18*s*. has been received. The Council hopes that Fellows will make an effort to wipe off the balance of the debt on this account.

Publications.

Two parts of the *Journal*, vol. lv (ii) and vol. lvi (i), and twelve monthly parts of *Man*, have been issued during the year. Office sales of the *Journal* have realized £102 for vol. lv. (ii) and £144 for vol. lvi (i), as against £99 and £125 for the corresponding parts of the preceding year. Subscriptions to, and sales of, *Man* received in the office realized £320 7*s*. 9*d*. in 1926, as against £296 5*s*. 8*d*. in 1925. A reference to the Balance Sheet will show, however, that when the subscriptions passing through the Bank are added, the total receipts for *Man* were £515 6*s*. 10*d*., as against £468 in 1925, and the expenditure £478 3*s*. 11*d*., so that this publication may now be regarded as self-supporting. Several double numbers were issued in the course of the year, and will continue to be issued in future when the amount of material in hand justifies this course. It may be said, however, that, as a general rule, there is a great deal more material in hand than can be published without unreasonable delay while *Man* remains at its present size, and while a double number can be published only intermittently.

The *Indian Antiquary* continues to be published under the authority of the Council as one of the publications of the Institute. The Council records with deep regret the death of Mr. S. M. Edwardes, one of the Editors, on January 1st. No successor has yet been appointed.

"Occasional Publications."—*Hill Figures of England*, by Sir W. M. Flinders Petrie, has been published during the year as an Occasional Publication, and the Council has accepted for publication during the coming year Part ii of Mr. H. Frankfort's *Studies in Early Pottery of the Near East*.[1] and a monograph, by Professor F. C. Parsons, on *Saxon Skulls*.

Laura Spelman Rockefeller Grant.

The second instalment of the Laura Spelman Rockefeller Grant has been received. The Council has now finally decided upon the allocation of the annual amount receivable in a certain proportion to the Librarian's salary, expenditure on the *Journal* and other publications of the Institute, and the Library.

Library.

Since January 1st, 1926, 385 volumes and 110 pamphlets, not counting periodicals and sets of periodicals, have been added to the Library. Of these, 272 were bound volumes. Gifts and review copies account for 155 works, the remaining 230 having been purchased out of the grant from the Carnegie United Kingdom Trust.

Some 370 volumes were bound, of which number 310 volumes represent parts of series of periodicals not previously bound. The cost of binding these was defrayed from the grant received from the Carnegie Trustees and the Laura Spelman Rockefeller Grant. The large collection of sets of British and foreign periodicals is an almost unique treasure-house of original material, and one of the most valuable assets of the Library. Through binding these works become available for reference on the shelves and for borrowing, thus greatly enhancing the utility of the collection. A start has also been made at selecting and binding together articles on anthropological and allied subjects from bulky volumes of miscellaneous transactions, so that the interesting papers in these become more readily accessible.

Another valuable asset is the collection of pamphlets and reprints sent from time to time by the authors. These have now been sorted and catalogued both under authors and subjects. A certain number have been bound, and the rest have been arranged in convenient box-files and placed upon the shelves, where they are available to Fellows for reference.

Six hundred works were borrowed during the year by 86 Fellows, and 43 were issued through the Central Library for Students.

Eight new periodicals were added to the list of exchanges, complete sets of the *Jahresschrift für die Vorgeschichte der sächsich-thüringischen Länder*, *Nada*, *Prähistorische Zeitschrift*, *Starinar*, and *Schlesiens Vorzeit* being obtained in this way.

Articles in current periodicals have been catalogued under subjects, and authors' cards on the plan of the International Catalogue of Scientific Literature have also been prepared.

[1] Published in June, 1927: "Occasional Papers," No. 8.

The Library was kept open on the evenings of Tuesdays and Thursdays during the winter months, but, as no Fellows took advantage of the arrangement, the practice has been discontinued.

The Library is peculiarly indebted to Miss Durham, who most kindly and self-sacrificingly assisted the Librarian for four weeks, working on an average from 10 a.m. to 7 p.m., in rearranging, checking, and renumbering all the books that had been brought from Great Russell Street. Our gratitude is also due to the reviewers and donors of books.

The Library still suffers from a lack of shelves, capable of holding the sizes of books most generally current, though the stringency has been temporarily relieved through the evacuation of shelves previously occupied by the Eugenics Education Society. There is moreover no adequate accommodation for Fellows and others desiring to work in the Library on Saturday mornings, or at times when the Meeting Room is occupied. If the subject-index of periodicals is to be continued, a filing cabinet is essential, and proper accommodation for the lantern slides is also badly needed if this department is to function.

Meetings.

Fourteen Ordinary Meetings have been held during the year, as against 16 in 1925. Owing to the lamented death of Sir William Ridgeway, who had been appointed Huxley Lecturer, the Huxley Memorial Lecture was not delivered.

An important exhibition of Tardenoisian and other pygmy implements was held in June.

Indian Research.

Four public meetings of the Indian Research Committee were held during the early part of the year. The work of the Sub-Committees has been continued. Mr. H. J. E. Peake, on election as President of the Institute, vacated the Chair, and Dr. H. R. Hall was appointed in his place.

The Mission Committee met once in 1926, and accomplished much useful work in bringing the Institute into closer relation with the work of the Missionary Societies. A programme of further meetings which had been arranged was interrupted by the strike.

Edinburgh Branch.

The Edinburgh Branch continues to be active under the Chairmanship of Sir Everard im Thurn, and has met regularly throughout the session. The regular membership, however, shows no sign of increase, nor has it been adequate to meet expenses. The Council is indebted to those Fellows who, by additional donations, have helped the Branch in its financial difficulties.

Derbyshire Caves Committee.

Certain excavations have been carried out during the year, but the Committee has not yet presented a report.

Huxley Memorial and Rivers Memorial Medals.

The Huxley Memorial Medal for the year 1926 was awarded to Sir Wm. Ridgeway, F.B.A., but as his death had taken place before the normal date of presentation, the medal was handed to his heir-at-law. Two Rivers Memorial Medals were awarded in 1926—one to Professor Edward Westermarck for anthropological work in Morocco, and one to Dr. A. P. Maudslay for archæological work in Central America.

Research Committee.

A Special Research Committee has been appointed, of which the scope must be distinguished from that of the Research Committee already in existence for the discussion of matters of a technical character. The object of the newly appointed Committee is to organize and direct research in the field. As the Committee has only recently been appointed, it is premature to speak at length of its objects and methods of work. It has, however, under consideration the possibility of raising a fund which will be used, under the direction of the Council, for the promotion of research in the field in the various departments of Anthropology.

Committee for Recording Objects of Ethnographical Interest.

Attention having been called to the fact that there are in private hands in this country a large number of ethnographical objects, and that there is danger that the record of their origin and purpose may be forgotten, a Committee has been appointed with the object of ascertaining whether it is possible to collect and record such information as is available. Lord Onslow has consented to act as Chairman of this Committee.

Conclusion.

In bringing this Report to a conclusion, the Council would wish to lay emphasis on the increasing degree in which interest is taken by the general public in the problems of anthropological science, and especially in archæological discovery, and to the wide extension of the recognition of the importance of ethnological investigation as a basis upon which the government and regulation of the affairs of the backward races of the Empire must be framed. In the recent Imperial Conference, the place of

applied science in the administration of the affairs of our dependencies was recognized for the first time, but it at once took a place in the proceedings commensurate with its importance. Although the claims of Anthropology in its practical application are not likely to be overlooked, as is shown by the Report of the Under-Secretary of State for the Colonies, on his recent journey in West Africa, much in this direction has still to be done in educating public opinion. In this work the Council confidently hopes that the Institute may do its share in the future in an equal or even a greater degree than in the past.

TREASURER'S REPORT FOR THE YEAR 1926.

DURING the year the ordinary revenue of the Institute has increased in consequence of the accession of new Fellows, as narrated in the Report of the Council, while at the same time welcome grants from the Carnegie United Kingdom Trust and from the Laura Spelman Rockefeller Memorial Fund have enabled improvements to be made in the Library and the publications. In particular, the latter fund, by permitting the employment of an Assistant Librarian, has greatly added to the usefulness, for purposes of reference, of the Institute's collection of books and periodicals, many of which are difficult to consult elsewhere in this country.

Two items of receipts, returned Income Tax and Rent received for the flat let off for a time to the Eugenics Education Society, really belong in part to previous years, though they could only be included in the accounts of the year of receipt. Of these, the rent from the flat may be regarded as non-recurrent, as the Council has decided to use the rooms in the future for the purposes of the Institute itself. The remaining sum, by which the receipts exceed the expenditure, is due to the care taken in the early part of the year to limit the cost of the publications at a time when the financial position was somewhat in doubt.

Of the publications, *Man* has during the year been self-supporting, even when allowance is made for the cost of postage which is included in the item "stamps and parcels"; the *Journal*, which constitutes one of the main activities of the Institute from the standpoint of the majority of the Fellows, has been improved by a grant voted from the Laura Spelman Rockefeller Fund, a grant which it is proposed to repeat in future years, while the same Fund has permitted of an increase in the number of occasional publications of matter less suited for inclusion in the *Journal*, but which are of great importance for the advance of Anthropology.

During the year a further appeal was made on behalf of the Housing Fund, and the amount received during the year, both before and after this appeal, viz. £130, has reduced the adverse balance on this account arising out of the move to the new premises. Approximately £400 is, however, needed before this charge on the funds can be extinguished, so that further contributions would be most welcome and would free funds for the improvement of the general amenities available for Fellows. The thanks of the Institute are due to the numerous generous donors, and a small further effort should relieve anxieties as regards future finance. The position as regards any need for change on the expiration of the lease of the present premises is safeguarded, as can be seen from the accounts, by a redemption policy which will produce an adequate sum by the appropriate date.

ROYAL ANTHROPOLOGICAL INSTITUTE

ACCOUNTS FOR

PAYMENTS.	£ s. d.	£ s. d.
		REVENUE
Rent, Housekeeping, &c.		343 13 7
"Journal"	748 14 6	
Less Refunds	1 6 0	
		747 8 6
"Man"	484 2 8	
Less Refunds	5 18 9	
		478 3 11
Salaries		259 10 2
Advertising		9 4 0
Stamps and Parcels		121 13 6
Telephones and Telegrams		13 0 10
Printing, Stationery, etc.		68 19 1
Coal, Gas, and Light		30 4 2
Lantern, etc.		12 16 6
Insurance—		
Fire and other	27 15 5	
Redemption of Lease	198 18 4	
		226 13 9
Subscriptions to other Societies, Directories, etc.		15 18 10
Bank Charges and Commission		2 9 10
"Huxley Lecture"		2 18 0
Typewriter		11 6 7
Travelling		2 8 8
Auditors' Fees		3 3 0
Subsidy to Edinburgh Branch		3 10 0
Rivers and Huxley Medals, etc		14 11 6
Sundries		15 4 6
Balance carried forward, 31st December, 1926		1,015 4 6
		£3,398 3 5

OF GREAT BRITAIN AND IRELAND.

THE YEAR 1926.

ACCOUNT.

RECEIPTS.	£	*s.*	*d.*	£	*s.*	*d.*
BALANCE BROUGHT FORWARD, 1ST JANUARY, 1926				650	13	7
SUBSCRIPTIONS :—						
Current	1,132	6	0			
Arrears	64	1	0			
Advance	45	18	2			
				1,242	5	2
ENTRANCE FEES				61	19	0
SALE OF "JOURNAL"	298	17	10			
Add Grant from Laura Spelman Rockefeller Memorial Fund	200	0	0			
				498	17	10
SALE OF "MAN"	516	8	10			
Less Refunds	1	2	0			
				515	6	10
SALE OF "HUXLEY LECTURE"				3	1	0
ADVERTISING				4	7	2
DIVIDENDS AND INTEREST				144	12	8
,, (AMERICAN DOLLAR BONDS)				32	16	6
INCOME TAX REFUND				56	11	8
EUGENICS SOCIETY—RENT OF FLAT				150	0	0
HIRE OF LECTURE ROOM				37	12	0
				£3,398	3	5

ACCOUNTS FOR

CAPITAL

	£ s. d.	£ s. d.
BALANCE CARRIED FORWARD, 31ST DECEMBER, 1926		7,805 14 3
		£7,805 14 3

LIBRARY

	£ s. d.
BOOKS AND BINDING	453 4 4
TRANSFER FROM SALARY PAYMENTS ACCOUNT (Librarian's Salary)	300 0 0
TRANSFER FROM PETTY CASH	5 4 8
	£758 9 0

HOUSING

	£ s. d.
BALANCE, 1925	454 3 4
TRANSFER FROM SPECIAL ITEMS PAYMENTS ACCOUNT	70 15 0
	£524 18 4

THE YEAR 1926—continued.

ACCOUNT.

	£	s.	d.	£	s.	d.
BALANCE BROUGHT FORWARD, 1ST JANUARY, 1926				7,748	1	0
INCREASE IN VALUE OF £886 BURMA RAILWAY STOCK :—						
Valued 31st December, 1926, at 120	1,063	4	0			
Valued 31st December, 1925, at 114	1,010	0	9			
				53	3	3
INCREASE IN VALUE OF £300 METROPOLITAN CONSOLIDATED $3\frac{1}{2}$% STOCK—						
Valued 31st December, 1926, at 96	288	0	0			
Valued at 31st December, 1925, at $94\frac{1}{2}$	283	10	0			
				4	10	0
				£7,805	14	3

ACCOUNT.

	£	s.	d.
BALANCE, 1925	33	1	2
SALE OF BOOKS	0	6	0
GRANT FROM THE TRUSTEES OF THE CARNEGIE UNITED KINGDOM TRUST	300	0	0
GRANT FROM THE LAURA SPELMAN ROCKEFELLER MEMORIAL FUND	370	0	0
BALANCE, 1926	55	1	10
	£758	9	0

ACCOUNT.

	£	s.	d.
DONATIONS	130	18	0
BALANCE, 1926	394	0	4
	£524	18	4

ACCOUNTS FOR

LAURA SPELMAN ROCKEFELLER

	£	s.	d.
TRANSFER TO LIBRARY ACCOUNT (Librarian's Salary, £300. Binding, etc., £70)	370	0	0
TRANSFER TO "JOURNAL"	200	0	0
TRANSFER TO OCCASIONAL PUBLICATIONS ACCOUNT	50	0	0
BALANCE, 1926	798	2	4
	£1,418	2	4

ANTHROPOMETRIC

	£	s.	d.
BALANCE, 1925	3	15	0
BALANCE, 1926	3	12	0
	£7	7	0

MISCELLANEOUS

	£	s.	d.
BALANCE, 1925	135	5	4
	£135	5	4

TRIBAL

	£	s.	d.
PAYMENT TO COLONIAL OFFICE	0	8	0
BALANCE, 1926	0	13	3
	£1	1	3

THE YEAR 1926—continued.

MEMORIAL FUND ACCOUNT.

	£	*s.*	*d.*
BALANCE, 1925	696	5	7
DONATION	721	15	9
	£1,418	2	4

INSTRUMENT ACCOUNT.

	£	*s.*	*d.*
SALE OF INSTRUMENTS	7	7	0
	£7	7	0

PUBLICATIONS ACCOUNT.

	£	*s.*	*d.*
TRANSFER FROM OCCASIONAL PUBLICATIONS ACCOUNT	48	1	9
BALANCE, 1926	87	3	7
	£135	5	4

MARKINGS ACCOUNT.

	£	*s.*	*d.*
BALANCE, 1925	0	15	9
SALES	0	5	6
	£1	1	3

BALANCE SHEET, 31ST DECEMBER, 1926.

	£ s. d.	£ s. d.
Amount due for Tribal Markings		0 13 3
Amount due for Anthropological *Notes and Queries* on 1st January, 1926	97 19 2	
Further sum received during the year	17 0 8	114 19 10
Balance of previous Accounts:—		
Revenue Account	1,015 4 6	
Capital Account	7,805 14 3	
Laura Spelman Rockefeller Memorial Fund Account	798 2 4	
Anthropometric Instrument Account	3 12 0	
	9,622 13 1	
Less— £ s. d.		
Library Account 55 1 10		
Housing Account 394 0 4		
	449 2 2	
		9,173 10 11
		£9,289 4 0

	£ s. d.	£ s. d.
House Value of Lease at Contract Price		2,150 0 0
Books, Publications and Stock		3,493 6 0
Furniture		200 0 0
£886 Burma Railway Stock, at 120	1,063 4 0	
£300 Metropolitan Consolidated 3½ per cent. Stock, at 96	288 0 0	
		1,351 4 0
Subscriptions in Arrear, valued at		44 0 0
American Dollar Bonds, subject to a contingent liability in excess of their value; *see* Treasurer's Report, 1918		— —
Miscellaneous publications		87 3 7
Cash at Bank:—		
Current Account	154 3 4	
Deposit Account (including £691 15s 11*d.* Capital)	1,809 7 1	
		1,963 10 5
		£9,289 4 0

We have examined the Accounts of the Royal Anthropological Institute and have obtained all the information and explanations we have required. In our opinion the Balance Sheet at 31st December, 1926, is properly drawn up so as to exhibit a true and correct view of the state of the Institute's affairs according to the best of our information and as shown by the books of the Institute.

JACKSON, PIXLEY & Co.,
CHARTERED ACCOUNTANTS,
Auditors.

58, Coleman Street, London, E.C.2.
21*st January*, 1927.

HOUSING FUND.

SECOND LIST OF SUBSCRIBERS.

	£	*s.*	*d.*
Prof. A. R. Radcliffe-Brown	1	1	0
Dr. V. Christian	2	0	0
Miss Collum..	0	5	0
Dr. D. Colquhoun	1	1	0
F. Corner	3	3	0
Prof. R. M. Dawkins ..	1	1	0
Miss M. E. Durham.. ..	2	0	0
Raymond Firth	1	1	0
G. A. Garfitt	3	3	0
R. Goodland..	2	2	0
Dr. E. S. Hartland	2	2	0
Dr. H. A. Haviland.. ..	10	0	0
A. M. Hocart	1	1	0
F. W. Hodges	3	0	0
E. H. Hunt	2	2	0
Rev. Neville Jones	1	1	0
A. L. Jupp	2	2	0
R. Kerr	1	1	0
Dr. H. A. Krause	1	1	0
Alexander Low	3	3	0
T. Lucas	1	1	0
R. F. Mackay	3	3	0
Dr. C. S. Myres	10	10	0
Dr. T. E. Nuttall	1	1	0
W. O. Oldman	1	1	0
Prof. F. G. Parsons	5	0	0
E. A. Parkyn	1	1	0
Mr. and Mrs. Scoresby Routledge..	50	0	0
Ven. Archdeacon A. Shaw ..	1	0	0
W. W. Skeat	1	1	0
Rear - Admiral Boyle T. Somerville	1	1	0
Dr. H. S. Stannus	3	3	0
Miss M. L. Tildesley ..	2	2	0
E. Torday	1	1	0
Miss C. Wedgwood	2	0	0
O. Guise-Williams	1	1	0
G. Udny Yule	2	2	0
	£130	18	0

PRESIDENTIAL ADDRESS.

THE BEGINNING OF CIVILIZATION.

By HAROLD J. E. PEAKE, M.A., F.S.A.

MORE than four years ago, from another presidential chair, I ventured to express the opinion that anthropologists, especially in this country, were devoting their attention too exclusively to problems in distant lands or in very early times.[1] In doing so I had no desire to see research into the customs of primitive tribes in any way diminished or to advocate the abandonment of studies on the Old Stone Age. I felt, however, that there were problems to be studied among the present population of Europe, even in our own country, which might well occupy the attention of anthropologists who were precluded from studying simple peoples in their own lands, and that cultures less ancient than the palæolithic had a claim to the attention of the archæologist.

Since then there has been a tendency in some quarters to undertake intensive studies on a regional basis of some of the rural areas in England and Wales. This line of inquiry, which has not proceeded far as yet, should produce interesting and, I venture to think, valuable results. Up to the present few investigations on these lines have been attempted, but amongst these I may cite those of our Fellows Mr. I. C. Peate, on "The Dyfi Basin,"[2] and Mr. Emrys Bowen, on "Anthropological Types and Tuberculosis,"[3] as well as the study of some Cotswold villages by Miss C. A. Simpson.[4]

Turning to the historical side, with which I am more familiar, I may note that the Palæolithic Age still has problems to be solved, and that there are remarkable discoveries to be made has been demonstrated by our Fellows Mr. Turville-Petre in Galilee[5] and Miss Garrod at Gibraltar,[6] but beyond these, which must necessarily be

[1] Peake, H. J. E., "The Study of Man," Brit. Ass. for the Advanc. of Sci., Report of 90th Meeting at Hull, 1922, p. 156.

[2] Peate, I. C., "The Dyfi Basin: a Study in Physical Anthropology and Dialect Distribution," *Journ. Roy. Anthrop. Inst.*, lv, 1925, pp. 58 ff.

[3] Bowen, E., "Anthropological Types and Tuberculosis," Brit. Ass. for the Advanc. of Sci., Report of 94th Meeting at Oxford, 1926, p. 390.

[4] Simpson, C. A., "Wychwood Village Sites," *ibid.*, p. 394.

[5] Keith, Sir A., and Turville-Petre, F., "Early Man in Palestine: the recently discovered Galilean skull," *ibid.*, 1925, p. 345.

[6] *Man*, xxvi, 83.

of rare occurrence, the best work recently has been the production of regional monographs, like those of Miss Garrod on the Upper Palæolithic Age in Britain,[1] and of our Local Correspondent, Mr. Neville Jones, on the Stone Age in Rhodesia.[2]

During the last few years students of palæolithic industries have been focussing their attention more and more on that dark period, that twilight of the Old Stone Age, which has been by some writers termed Mesolithic, though by most authorities called by the more lengthy yet more logical name of the Epipalæolithic Age. It is a perplexing period, its industries poor, its art moribund, its people apparently degenerate. Gone were the spacious days of big-game hunting and realistic art. The miserable descendants and successors of Magdalenian man, hemmed in on all sides by the forest, had killed out what were left of the big beasts of the steppe, and were forced to hunt lesser game on the limestone hills and sandy heaths. Others dwelt by the seashore or by the banks of lakes and rivers, gaining a miserable subsistence from clams and limpets, eking out this meagre fare with nuts and berries in the autumn and at other times with edible roots.

The great work of our Honorary Fellow Dr. H. Obermaier[3] has made us all familiar with the main features of these industries, while our knowledge of these times has been further enlarged by a number of papers by our Honorary Fellow the Abbé Breuil[4] and, as regards Poland, by Dr. Leon Kosłowski.[5]

In this country, too, much work has been done recently on this dark period. Messrs. R. Thomas and E. R. Dudlyke have described a flint-chipping floor at Aberystwyth,[6] our Fellow Mr. Leslie Armstrong has noted Tardenoisian implements in Mother Grundy's Parlour,[7] and remains of an industry in Holderness resembling that of Maglemose,[8] Mr. F. Buckley has described a microlithic industry in the Pennines,[9] while our Fellow Mr. O. G. S. Crawford and I have given an account of a slightly later site at Thatcham.[10] The study of this period was, I think, much advanced by

[1] Garrod, D. A. E., *The Upper Palæolithic Age in Britain*, Oxford, 1926.

[2] Jones, Neville, *The Stone Age in Rhodesia*, Oxford, 1926.

[3] Obermaier, H., *El Hombre Fosil*, Madrid, 1916; *Fossil Man in Spain*, Oxford, 1924.

[4] Breuil, H., "L'Hiatus," *Anthropologie*, 1921, p. 349; "Some Observations on the pre-Neolithic Industries of Scotland," *Proc. Soc. Ant., Scot.*, 1921–2, lvi, p. 265.

[5] Kozłowski, Leon, *Epoka Kamenia na wydmach wschodniej czesci wyzyny Malopolskiej*, Warsaw, 1923 (with a German summary).

[6] Thomas, Roger, and Dudlyke, E. R., "A Flint-Chipping Floor at Aberystwyth," *Journ. Roy. Anthrop. Inst.*, lv, 1925, pp. 73 ff.

[7] Armstrong, A. Leslie, "Excavations at Mother Grundy's Parlour, Creswell Crags, Derbyshire, 1924," *Journ. Roy. Anthrop. Inst.*, lv, 1925, pp. 146 ff.

[8] Armstrong, A. Leslie, "Two Yorkshire Harpoons," *Man*, xxii, 75; "Further Evidence of Maglemose Culture in East Yorkshire," *ibid.*, xxiii, 83; "The Maglemose Remains of Holderness and their Baltic Counterparts," *Proc. Prehist. Soc. E. Angl.*, iv, pp. 37 ff.

[9] Buckley, F., *A Microlithic Industry* (privately printed, 1921); "Yorkshire Graves," *Proc. Prehist. Soc. of E. Angl.*, iii, 1922; *A Microlithic Industry of the Pennine Chain* (privately printed, 1924).

[10] Peake, H. J. E., and Crawford, O. G. S., "A Flint Factory at Thatcham, Berks," *Proc. Prehist. Soc. E. Angl.*, iii, pp. 499 ff.

the exhibition of microlithic industries held in this building last June, and by the admirable catalogue of the exhibits prepared by our Fellows Messrs. J. P. T. Burchell and V. Gordon Childe.[1] Valuable monographs on this and subsequent periods have come from the pens of our Fellows Miles C. Burkitt[2] and V. Gordon Childe.[3]

The work of these investigators has gone far to produce order out of chaos, though much remains to be done before a clear picture of the life of the period can be obtained, or the exact succession of the different phases of its industries can be ascertained with certainty. All the evidence available suggests that the people of Europe had passed from being hunters of big game to the status of hunters of small animals, while most of them had further degenerated into mere collectors of food. The different phases recognizable in their industries suggest that the period must have lasted for several thousands of years, while the presence of flint implements of Tardenoisian type in association with pottery[4] leads one to suspect that the latest phase must have come down well into the third millennium before our era. The successive phases show slow but definite retrogression, but no symptom of progress. How did these backward and unprogressive people develop into the Western Europeans of to-day? Are they right who have uttered the formula "*Ex oriente lux*," and bring fresh light from the east, or is their opinion a *mirage*, as our Honorary Fellow Dr. Salomon Reinach would have us believe? Where and when did civilization begin? These are some of the problems that face us.

First, however, we must determine what we mean by civilization, for the term is used in widely divergent senses. Sometimes it is applied to conditions which obtain in the West, to the exclusion of the East, while at others it is used for the most primitive of cultures. Dictionaries inform us that to civilize is to raise man from a savage or a barbarous condition, but this is only to define one unknown in terms of two others. A civilized man is presumably a member of an organized state, and such a state may be a city-state; a city may be small, so small, indeed, as to be nothing more than a village. Perhaps we are not far wrong in separating those who lead a settled life from those who wander, calling the first civilized and the others savage or, at least, barbarian. Yet such a definition will lead us into difficulties, for there are pastoral nomads—and this is truer of the past than of the present—who live in a more highly organized condition than do the inhabitants of many primitive villages.

It will, I think, be safer to divide mankind into producers and exploiters. The first group includes those who produce food and other commodities, whether by herding and breeding domesticated animals, to be used for food and clothing, or by

[1] Catalogue of Products illustrating the Tardenoisian and other Microlithic Industries, 1926, published by the Institute.

[2] Burkitt, M. C., *Our Early Ancestors*, Cambridge, 1926.

[3] Childe, V. Gordon, *The Dawn of European Civilization*, London, 1925; *The Aryans*, London, 1926.

[4] Crowfoot, Mrs. J. W., "Note on Excavations in a Ligurian Cave," *Man*, xxvi, 53.

raising crops for the same purpose. The second consists of those who gain their livelihood by exploiting the resources of nature, whether by hunting beasts and birds, large or small, by fishing, or by collecting shell-fish, nuts, berries, or edible roots. The former group have, at least, started on the road to civilization, while the others are clearly uncivilized, even if we hesitate to call them barbarous or savage.

It was at one time believed that all civilized people had passed through three successive stages—the hunting, pastoral, and agricultural. This view has now been abandoned, for at two sites, both of them very early, we find evidence that the inhabitants had reached the agricultural stage without possessing any domesticated animals, except, in one instance, the dog. These sites are Susa and Anau, and in both we find pottery of a well-developed type and a certain amount of copper. Leaving on one side the question of pastoral people, who, in early days at least, were nomadic, we find, as far back as our present evidence will take us, that the earliest grain-growers made pottery and were acquainted with the rudiments of metallurgy. Our problem, therefore, is to ascertain when and where men first took to cultivating grain, which necessitated a fixed abode, during part of the year at least, and thus led to the erection of houses grouped in villages, to the potter's art, and, though perhaps a little later, to the use of copper.

The question, when and where these industries arose, brings one into contact with another problem, the subject of acute controversy, namely, whether these discoveries were made at one time and in one place, and thence diffused throughout the world, or whether similar circumstances led to their independent discovery in various regions at different times. This question has been debated for many years, and with no little heat during the last decade. I do not wish at present to range myself in either camp, but I cannot help thinking that the extreme protagonists of both parties have taken up a more dogmatic position than the evidence at our disposal warrants. I have felt very grateful, therefore, to our Fellow Dr. H. S. Harrison for his calm and judicial discussion of this question in recent numbers of *Man*.[1]

He has shown, satisfactorily as I think, that comparisons should not be drawn between inventions made under civilized conditions, when many men can approach problems in their leisure moments, with those made by primitive folk, the whole of whose energies is absorbed in gaining their livelihood. He has also drawn a wise distinction between great and original, or, as he terms them, mutational, inventions, and those which are merely obvious improvements on existing appliances.

It seems probable that what led to grain-growing was dire necessity, the mother of all inventions. Owing to the growth of woodland, game had become scarcer and less easily found, and, even where open country still existed, the animals were becoming rarer and more wary as the result of thousands of years of human

[1] *Man*, xxvi, 74, 101, 143.

hunting. Except in those regions where the sea or fresh water provided an ample supply of edible molluscs, men had frequently to search for other supplies of food. Nuts, berries, and edible roots would be collected, and we can well imagine that in regions where these were scarce, hunger would lead men, or more probably their women-folk, to collect the larger seeds of wild grasses to stave off the pangs of hunger.

Our Past-President Professor C. G. Seligman informs me that when he visited Faragab in Kordofan, in 1912, the natives there—the Gawania, a very dark tribe, who usually grew sufficient grain for their needs—were lacking this commodity, owing to the shortage of rain during the previous winter. As a result of this scarcity they were collecting and eating the seeds of a grass called *heskēnīt* (*Cenchrus catharticus* Del.). He has also referred me to a statement made by Roth.[1] that the natives of the Boulia District in North-West-Central Queensland collect for food a number of seeds, including the ya-ra-ka, "star-grass" (*Eleusines ægyptica* Pers.), the ka-too-ra (*Sporobolus actinocladus* F. v. M.), and the ya-ka-pa-ri (*S. Lindleyi* Benth.), while the Mitakoodi in the Cloncurry District collect the jil-groo-bar-i (*S. indicus* R. Br.), and the Kalkadoon in the Leichhardt-Selwyn District eat the seeds of various grasses under the name of kun-yel.

Our Fellow Professor Fleure has suggested to me that it is possible that some of these grain-collectors, finding the grasses, on which they depended for supplementing their food supply, choked and killed by weeds, may have cleared away these weeds with the stone-hoes that they used for digging up edible roots. This appears to me to be a likely link between collection and cultivation that may have led the way to seed-sowing.

Of the many grains now used, rice is believed to have been first cultivated at a relatively late date. Rye is said by Vavilov[2] to be a common weed in fields of emmer, and he states that at high altitudes the weed ultimately ousts the crop. It has been said that oats were not cultivated until post-Roman times, but our Fellow Mr. R. C. C. Clay, found grains of this cereal in stores of a village at Fifield Bavant, in Wiltshire; this village dates from the beginning of the La Tène period.[3] A form of millet.[4] *Panicum colonum*, was used by some predynastic Egyptians, but it is not yet clear that it had been cultivated: the folk who used it may have collected the seed from wild plants.

Botanists and archæologists seem to be agreed that the cultivation of some forms of wheat and barley preceded that of other grains, and it is believed that of these barley was the first to be grown. All the published evidence from Egypt points to

[1] Roth, Walter E., *Ethnological Studies Among the North-West-Central Queensland Aborigines*, Brisbane and London, 1897, §§ 105, 106, 107, 111, 112.

[2] Vavilov, Professor N. I., *Studies on the Origin of Cultivated Plants*, Leningrad, 1926, p. 196.

[3] *Wilts Arch. Mag.*, xlii, p. 493, pl. xviii.

[4] Elliot Smith, G., *The Ancient Egyptians and their Influence upon the Civilization of Europe*, London, 1911, p. 42.

this conclusion, though, as we shall see, there remains some possibility of doubt on this point. In Mesopotamia and other parts of Western Asia—though we have early evidence of cultivation, for Campbell Thompson found hoes, sickles, and querns, with fine painted pottery, at Abu Shahrain[1]—we have had until lately no actual remains of grain found in any early deposit.

Now, however, we learn from Langdon that he has found grains of wheat at Jemdet Nasr, in a deposit that he dates at about 3500 B.C., though it may well be earlier. There is some difference of opinion among botanists as to the species to which these grains are to be attributed, but all agreed that it was a type which indicates that wheat had long been cultivated in that region.[2]

Delaporte has given a large number of extracts from Babylonian documents, some from the time of Hammurabi, and a few still older, in which actual payments, and sometimes legal rates of payment, were made in *gurs* of barley; he quotes one only of the former, and none of the latter type in which wheat was so used.[3] This use of barley, apparently as a standard of exchange, suggests that it was the staple crop, and that its use preceded that of wheat in Mesopotamia.

A wild form of barley, *Hordeum spontaneum* Koch, is found widely distributed over the south-western corner of Asia. It has been recorded from Asia Minor, Turkestan, Bokhara, Persia, Northern Afghanistan, and Transcaucasia.[4] Dr. Otto Stapf informs me that to his knowledge it is found in Palestine "as far south as Mar Saba and Ayan Musa, west and east of the Dead Sea, in latitude 32." He tells me, too, that Boissier also mentions it in Arabia Petræa, but that he has been unable to ascertain the authority for this statement. Vavilov also includes in this area of wild barley North Africa, Morocco, and Abyssinia. His reasons for including Abyssinia seem to be based upon a theory that he has advanced that grains were first cultivated in areas where the greatest variety of cultivated forms can be found to-day. This hypothesis has not yet, as I understand, received the general assent of agricultural botanists, and Dr. H. V. Harlan, of the United States Department of Agriculture, tells me that he could not find any wild barley in that country. He writes, "I have gone over the Abyssinian plateau during the time of year when wild barley would be evident, and have been unable to find a single specimen." Quite recently our Fellow Professor G. Elliot Smith has stated that wild barley is found "in the regions to the south and east of Egypt."[5] It seems likely that he bases this statement on that of Vavilov which I have cited.

[1] Thompson, R. Campbell, "The British Museum Excavations at Abu Shahrain in Mesopotamia in 1918," *Archæologia*, lxx.

[2] Langdon, S., "A Discovery at Kish," in *The Times* for January 29th and February 3rd and 7th, 1927. See also a letter from Professor Percival in *Nature*, vol. cxix, p. 280.

[3] Delaporte, L., *Mesopotamia: the Babylonian and Assyrian Civilization*, London, 1925, pp. 109, 110, 111, 114, 118, 119, 120, 124.

[4] Vavilov, *op. cit.*, p. 168.

[5] *Nature*, vol. cxix, p. 82.

On what grounds Morocco is included I have been unable to ascertain, for I can find no record of the discovery of barley in that region, though it is admitted that the soil and climate of that area are suitable. In his map,[1] of the distribution of wild barley, Vavilov includes only a narrow strip of North Africa eastward from the Gulf of Gabes, including the north of Egypt. That barley grew wild here has been more than once stated,[2] though these statements have been unaccompanied by evidence. Thanks, however, to Dr. Stapf, I can produce this. In 1893, Dr. Schweinfurth published a short paper on the *flora* of Marmarica,[3] in which he states that he found *Hordeum spontaneum* Koch at Badia in 1890, and that Dr. Taubert found it also in 1887 in Wadi Dernia, in Cyrenaica.[4] Barley was, it would seem, growing wild in Tripoli at the close of the last century, though Dr. Harlan tells me that he failed to find it there more recently. It is reasonable, therefore, to suppose that it grew wild also along the northern strip of Egypt, where the soil is clay, and where the Bedouin still grow barley when the spring is not too dry.

That barley was cultivated by the Egyptians in predynastic times rests mainly on a statement of Elliot Smith's. In 1899 Mrs. Phœbe Hearst entrusted to Dr. George A. Reisner the organization and direction of an Egyptian expedition. Having obtained permission from the Department of Antiquities, Dr. Reisner went to Naga-ed-Dêr on February 1st, 1901. From December, 1901, to March, 1903, under Dr. Reisner's direction, Mr. Lythgoe worked on the predynastic cemetery 7000. In the spring of 1902, at the request of Mr. Quibell, Dr. Reisner offered to Dr. Elliot Smith all his somatological material, which at that time, owing to the condition of the bodies in cemetery 7000, was particularly interesting.[5]

Elliot Smith, referring to these bodies,[6] states: "From the stomachs and intestines of these prehistoric people I was able to recover large quantities of food materials; in fact, the last meals eaten before death, which Dr. Fritz Netolitzky, of Czernowitz, kindly undertook to examine. After years of most laborious and highly skilled investigation he has been able to discover not only the precise nature of the prehistoric diet, but also something of the mode of preparation of the food for consumption. Almost every sample contained husks of barley."[7]

This information was received by Elliot Smith, so he tells me, in a letter from Netolitzky, who, however, published subsequently two papers describing these

[1] Vavilov, *op. cit.*

[2] Höck, F., *Die Brotpflanzen*, 1901, p. 189.

[3] *Bulletin de l'Herbier Boissier*, I, 1893; *Primitiæ Floræ Marmaricæ*, von G. Schweinfurth and P. Ascherson, p. 442.

[4] *Ibid.*, p. 677.

[5] University of California Publications: *Egyptian Archæology*, vol. ii; *The Early Dynastic Cemeteries of Naga-ed-Dêr*, part I, by George A. Reisner, Leipzig, 1908, pp. v–vii.

[6] Elliot Smith, *Ancient Egyptians*, p. 46.

[7] *Ibid.*, p. 42.

stomach contents. By this time he seems to have grown more cautious and to have doubted his earlier determination, for in one paper he says that while there were glumes in almost all the bodies examined, these glumes could not be identified. The grain had an ear with a brittle axis and the glumes closely attached to the grain, but he was uncertain whether the grain was wheat or barley.[1] In the other paper he refers merely to grain.[2] He cites materials from graves 7041, 7048B, 7077, 7081, 7116, 7164, 7165, 7179, 7360, 7409, 7491, 7497 and 7534: grain was found in the first four and in 7164, 7165 and 7360.

Netolitzky was not, however, satisfied to leave the matter undetermined, and he set a pupil to work on the material. This pupil, Dr. Hedwig Gherasim, finally proved that the glumes were those of barley.[3] We may, therefore, rest satisfied that during predynastic times the inhabitants of Upper Egypt used barley for food and presumably cultivated the plant.

Professor Percival has, however, pointed out that this evidence does not prove that wheat was not eaten too, for "in barley the husks (glumes) are closely adherent to the grains, and portions of them are consequently consumed with them, whereas in wheat the husks or glumes are free from the grains and must be removed before the latter can be used as food."[4]

The Predynastic Period is, however, a long one, and it becomes important to determine to what stage in that period we must relegate the graves from Naga-ed-Dêr. Elliot Smith says that they were "among the earliest predynastic people whose remains have been preserved for examination."[5] Unfortunately neither Dr. Reisner nor Mr. Lythgoe have published details of the graves found in cemetery 7000. The few remarks on the subject in the volume on Early Dynastic Cemeteries have already been quoted, and the only other published material bearing on the subject is to be found in Dr. Reisner's "Archæological Survey of Nubia."[6] Here he has proposed a triple division of the Predynastic Period into Early, Middle, and Late, and states that the cemetery we are discussing contained graves of the Early and Middle Predynastic Periods. Elliot Smith clearly indicates, in the passage already quoted, that the graves in question belonged to the first of these divisions, and has corroborated this in a letter to me.

If, however, we are to admit that barley was grown in Egypt earlier than in Mesopotamia, it becomes important to arrive at a more precise date. Unfortunately,

[1] Netolitzky, Dr. Fritz, "Neue Funde prähistorischer Nahrungs- und Heilmittel," in *Xenia*, Hommage international à l'université nationale de Grèce, Athens, 1912.

[2] Netolitzky, Dr. Fritz, "Nahrungs- und Heilmittel der Urägypter," in *Zeitschr. für Untersuchung der Nahrungs- und Genussmittel*, 1911, Bd. 21, p. 607.

[3] Gherasim, Hedwig, "Neue Kennzeichen der Getreidespelzen und Beiträge zur Bestimmung prähistorischer Pflanzenfunde," in *Pharmaz. Monatshefte*, Czernowitz, 1921, cxix, p. 157.

[4] *Nature*.

[5] Elliot Smith, G., *Ancient Egyptians*, p. 55.

[6] Ministry of Finance, Egypt, Survey Department, "The Archæological Survey of Nubia," report for 1907-8, vol. 1; Archæological Report, by George A. Reisner, Cairo, 1910, pp. 315, 316

however, the dating of early Egyptian periods is a matter of uncertainty. Neither of the more extended chronologies favoured by our Fellow Sir Flinders Petrie or by Dr. Borchardt have met with general acceptance among Egyptologists, and of the shorter chronologies more usually adopted, there are three alternative dates for the close of the Predynastic Period. Our Fellow Dr. H. R. Hall has suggested 3500 B.C.,[1] Dr. Breasted adopted 3400 B.C.,[2] while Dr. Edouard Meyer has recently fixed this date at 3197 (± 8) B.C.[3]

Few estimates of the length of the Predynastic Period have been made, and such as have appeared are based solely upon guesswork.[4] but an ingenious device, invented by Petrie in 1901, enables us to divide this period into a number of zones or sequence dates.[5] Though it is admitted that these zones may be of very unequal length, the great majority of Egyptologists admit that the principle is a sound one, and the small criticism of our Fellow Dr. H. Frankfort.[6] that the graves with single pots, which form S.D. 30, may well be poor graves of somewhat later date, does not affect the system. It would assist us, therefore, in our inquiry if we could place the graves in which barley was found in their proper sequence date.

Now it is part of Petrie's system that the Predynastic Period is divisible into three—the Early, including S.D. 30–39, the Middle with S.D. 40–59, and the Late, S.D. 60–78. Reisner also, as we have seen, divides the period into three similar phases. But Reisner has not, I believe, accepted the system of sequence dating, and it is not clear that his threefold system agrees completely with that based on the sequence dates. Until, therefore, the account of the excavation of Cemetery 7000 at Naga-ed-Dêr, with full details of the contents of all the graves, has appeared, we are unable to describe these graves in terms of sequence dates.

Elliot Smith has informed me that in some of the graves at Naga-ed-Dêr there were pots containing grains of barley. No account of this appears to have been published, and until we have the full account of the grave contents we cannot attach to this discovery the importance it deserves. Schultz, however, states that he has seen one grain from Naga-ed-Dêr and "would like to call it barley."[7]

Another find of barley, attributed to predynastic times, has been mentioned by Hrozny, who states that barley and emmer were found "with contracted burials at Silsileh without trace of copper or bronze."[8] Hrozny tells me that he obtained

[1] *Cambridge Ancient History*, i, Cambridge, 1923, p. 173.

[2] Breasted, J. H., *A History of Egypt*, 2nd edit., New York, 1912, p. 597.

[3] Meyer, Ed., *Die ältere Chronologie Babyloniens, Assyriens und Ägyptens*, 1925, p. 68.

[4] Petrie considers that the Predynastic Period lasted for 2,000 years.

[5] Petrie, W. M. F., *Diospolis Parva* (Egypt Explor. Fund, 20th mem.), London, 1901.

[6] Frankfort, H., *Studies in Early Pottery in the Near East*, London, 1924, I, p. 95, f.n. 6.

[7] *Abhandlung naturforschenden Gesellschaft zu Halle*, 1915, No. 5.

[8] Hrozny, F., "Das Getreide im alten Babylonien," *Sitzungsberichte der K. Akad. der Wissensch. Phil.-Hist. Kl.*, Bd. 173, Abh. 1, Wien, 1914, p. 19.

this information from a note to a paper by Schäfer.[1] but this does not quote the authority on which the statement is based: and de Morgan.[2] who gives a brief description of the cemetery, makes no mention of grain having been found there. That grain was actually discovered there, or more accurately between Kawamil and Silsileh, by Legrain and Lampre in 1896–7, is clear from a statement by Schultz.[3] that the grain found there was *Hordeum vulgare palæovægypticum* and *palæoparallelum*, and not emmer, as had been thought.

In the case of Silsileh, too, we are uncertain of the exact horizon, for the absence of metal is no criterion of exceptionally early date, since copper has been found in the earliest predynastic graves, and was known to the still earlier Badarians.[4]

Although we can be sure that grain of some kind was cultivated in Mesopotamia during the age of the fine painted pottery, we are uncertain what plants were grown. Nor are we in any position to date these deposits with any greater precision than those of Egypt. We know that similar painted pottery was found at Tell el 'Obeid,[5] a few miles from the site of Ur, by Campbell Thompson and Hall, and that they believed that it dated from a time long anterior to the First Dynasty of Ur. Woolley, excavating at the latter city, dug down 6·40 metres below the floor of a First Dynasty building and found remains of an early settlement within a mud wall.[6] Neither in this settlement nor in the intervening soil did he, so he tells me, discover a trace of this fine painted pottery. We can only say that it was used long before the beginning of the First Dynasty of Ur, but how long before is uncertain.

The date of the beginning of this dynasty is also uncertain. In 1923 Langdon fixed the date at about 4216 B.C.,[7] though later in the same year he suggested about 4000 B.C., with a still later correction in his preface to 3944 B.C.[8] These dates are undoubtedly somewhat inflated, as, I understand, Langdon now admits. Other experts, including Hall, have gone to the other extreme, and have suggested 3200 B.C., on the grounds that the style of the art and of the writing closely resemble those of the remains found at Telloh, which date roughly from that time.

We may approach the question of relative dates in Egypt and Mesopotamia in another way. There is in the Ashmolean Museum at Oxford a large pear-shaped mace-head, which belonged to the last of the predynastic monarchs of Egypt, usually

[1] Schafer, H., "Priestergräber und andere Grabfunde von Ende des alten Reiches bis zur Griechischen Zeit vom Totentempel des Ne-User-Re," in *Wissenschaftliche Veroffentlichungen der Deutschen Orientgesellschaft*, VIII, Leipzig, 1908, p. 164, f.n. 2.

[2] Morgan, J. de, *Recherches sur les origines de l'Egypte*, II.

[3] Schultz, *op. cit.*

[4] Brunton, G., *Man*, xxv, p. 103.

[5] *Archæologia*, lxx, p. 119.

[6] Woolley, C. Leonard, "The Excavations at Ur, 1925–6," *The Antiquaries' Journal*, VI, p. 395.

[7] *Cambridge Ancient History*, I, Cambridge, 1923, p. 666.

[8] *Oxford Edition of Cuneiform Texts*, II, Oxford, 1923, 22, III.

known as "The Scorpion."[1] This very closely resembles, both in size and shape, a mace-head found at Telloh and dedicated to Ningirsu by Lugalshug-engur, patesi of Lagash under Mesilim, who calls himself King of Kish.[2] Dr. Hall has admitted that the absolute identity in shape of these mace-heads "makes it impossible to suppose independence of origin for them."[3] He further describes them as "precisely similar and roughly contemporary."[4] Professor Delaporte, describing the foundation tablet from Tell el 'Obeid of A-anni-padda, son of the founder of the First Dynasty of Ur, says that "the writing is very little older than that on the mace of Mesilim."[5] The mace-head of the Scorpion must date from about 3400 B.C., or, according to Hall, from rather before 3500 B.C. If we agree that the mace-head from Telloh is contemporary, and that the inscription from Tell el 'Obeid is slightly earlier, then we must place the founder of the First Dynasty of Ur still earlier again. From this reasoning it would appear that the First Dynasty of Ur began before rather than after 3500 B.C. Yet the fine painted pottery of the early grain growers of Mesopotamia had passed away long before the rise of the First Dynasty of Ur.

A new method of approaching this problem has been utilized by Dr. Wilhelm Ramsay, who has argued that certain rises of the land or, as he believes, retreats of the sea during and after the Ice Age, have occurred throughout the Old World. During the last Ice Age, so Ramsay believes, the greater part of the Persian Gulf was dry land, and here may have arisen the beginnings of that civilization that we know as Sumerian. After the Ice Age there was what he calls a "post-glacial transgression" of the sea, and to the close of this he would place the earliest Sumerian settlements on the delta of the Tigris and Euphrates. By this he clearly means the settlements with the fine painted pottery. According to recent estimates of Sandegren, the Tapes-Littorina Sea in the Baltic reached its greatest extension about 4500–4000 B.C., and at this date he would place the earliest Sumerian cities.[6]

De Morgan was at first inclined to give a much greater age to the first settlement at Susa, but not long before his death he saw the weakness of arguing dates from the depth of accumulated deposits, and he gave as a probable date for this settlement somewhere between 5000 and 4500 B.C.[7] There is thus some measure of agreement between the dates of Ramsay and de Morgan, namely, that the fine painted pottery of Susa, Abu Shahrain, Tell el 'Obeid and elsewhere dates from between 5000 and 4000 B.C., and this agrees well with its position relative to the First Dynasty of Ur, the beginnings of which, if my previous arguments are sound, we must place well before 3500 B.C.

[1] Figured in Capart, J., *Primitive Art in Egypt*, London, 1905, fig. 188, p. 251.

[2] King, L. W., *A History of Sumer and Akkad*, London, 1910, fig. 42; *Cambridge Ancient History*, i, p. 584.

[3] *Cambridge Ancient History*, i, p. 582.

[4] *Ibid.*, p. 584.

[5] Delaporte, L., *Mesopotamia*, London, 1925, p. 22.

[6] Ramsay, Wilhelm, "Eustatic Changes of Level and the Neolithicum," *S.M.Y.A.*, xxxvi, ii.

[7] Morgan, J. de, *Prehistoric Man*, London, 1924, p. 13.

The region in which wheat was first cultivated is less open to question, for no species of *Triticum* has been found wild in Africa. The problem is, however, complicated by the fact that there are many forms of wheat, and more than one species have been found growing wild.

The wheats cultivated to-day have been divided into three groups, and the classifications given by Percival[1] and Vavilov[2] are in substantial agreement. They may be tabulated thus :—

I.—Soft wheats, with 21 chromosomes, including :—

Triticum vulgare Vill., *T. compactum* Host., *T. sphærococcum* Perc., and *T. spelta* L.

The last named is known as spelt, but, as this term has at one time or another been applied to other species, not all in this group, the term has become vague and had best be abandoned.

II.—The Emmer Group, with 14 chromosomes, including :—

Triticum durum Desf. (Macaroni wheat), *T. turgidum* L., *T. polonicum* L., *T. dicoccum* Schübl. (cultivated emmer), *T. pyramidale* Perc., *T. orientale* Perc., *T. persicum* Vav., and *T. dicoccoides* Körn. (wild emmer).

This group is called by Vavilov "hard wheats," but the term is open to objection, as the hard wheats of commerce belong to the first group.

III.—Dinkel or Einkorn, with 7 chromosomes, including :—

Triticum monococcum L. (cultivated einkorn) and *T. ægilopoides* Bal. (wild einkorn).

As to the regions in which these varieties of wheat grew wild and were first cultivated, Vavilov is of opinion that this question cannot be determined by searching for wild survivors. He suggests that the original centres can best be determined by noting the regions in which the greatest variety of cultivated forms are found to-day.[3] His views on this point are not, however, accepted by Stapf or Percival. It will be well, therefore, to examine the distribution of the wild plants.

Triticum vulgare, the oldest known species of the soft wheats, has never been found wild. In his monograph, Percival suggested that it "is a vast collection of mutants and hybrids, which I regard as having originated from the crossing of *T. dicoccoides* or *T. dicoccum*, with one or two species of *Ægilops*."[4]

This hybrid origin of *T. vulgare* has been generally accepted, but its parentage has been questioned. Our Fellow Professor Ruggles Gates has argued that it has been derived from emmer and einkorn.[5] Where it was first grown is not known for

[1] Percival, J., *The Wheat Plant* (a monograph), London, 1921, p. 339.

[2] Vavilov, Prof. N. I., *Studies on the Origin of Cultivated Plants*, Leningrad, 1926, p. 154.

[3] Vavilov, *op. cit.*

[4] Percival, *op. cit.*, p. 269.

[5] Gates, R. Ruggles, "Polyploidy," *Brit. Journ. Experimental Biology*, i, pp. 171–5.

certain, but a grain, identified by Wittmack as *T. vulgare*, was found at Sesklo in Thessaly, in a deposit of the Second Thessalian Period.[1] It has been found in deposits in Hungary, which appear to belong to the Second Danubian Period, though some may be later, at Felsö-Dobsza, Agg-telek and Lengyel,[2] and Dr. H. C. Schellenberg identified as *T. vulgare* impressions in pottery from the lowest layer at Anau in Turkestan.[3] It is generally agreed now that the invaders, who introduced the Second Culture into Thessaly, came from the Black Earth region of South Russia, and Childe has produced strong arguments to prove that the authors of the Second Danubian Culture had come from the same region.[4] It would seem, then, that the soft wheats were first cultivated in South Russia and Turkestan, unless both areas derived the plant from the region south of the Caucasus.

The occurrence of wild emmer, *T. dicoccoides* Körn., in South-west Asia, has been reported more than once, even in very early days. Berosus states that πυρός, by which emmer is meant, grew wild in the land of the Babylonians between the Tigris and the Euphrates.[5] In 1787 André Michaux saw "spelt" wheat growing wild in Persia, north of Hamadan,[6] and at the beginning of the nineteenth century Olivier found growing on the right bank of the Euphrates north-west of Anah, "near the camp, in a sort of ravine, wheat, barley, and spelt, which we had already seen many times in Mesopotamia."[7] As no specimens of these grains have been preserved, it is impossible to be certain that they were wild species and not strays from cultivation. Percival says that "it is highly probable that the 'spelt' to which Olivier refers, was the fragile-eared wild emmer, *T. dicoccoides*,"[8] though it seems possible that this and the spelt found by Michaux were plants of *T. monococcum*, often called small spelt.

However this may be, *T. dicoccoides* Körn., the true wild emmer, was rediscovered at Rosh Pinar, at the foot of Jebel Safed in Syria, in 1906, by Aaronsohn, who found it later at Rasheyya and elsewhere on the slopes of Mount Hermon, as well as on the plateau of Es-Salt, east of the Jordan Valley. He found it growing in crevices of limestone rocks in dry situations between 300 ft. and 500 ft. below, and over 6,000 ft. above, the Mediterranean level, usually associated with wild barley, *Hordeum spontaneum*, and often with *T. ægilopoides*.[9] Specimens of what was believed to be the

[1] Tsountas, *Sesklo*, p. 359; Wace and Thompson, *Prehistoric Thessaly*, Cambridge, 1912, p. 73.

[2] Buschan, Georg, *Vorgeschichtliche Botanik der Cultur- und Nutzpflanzen der alten Welt*, Breslau, 1895.

[3] Pumpelly, R., *Explorations in Turkestan*, Washington, 1908, ii, p. 472.

[4] Childe, V. Gordon, *The Dawn of European Civilization*, London, 1925, p. 179. Childe has recently informed me that grain, identified as *T. vulgare*, has been found on one of the prehistoric Black Earth sites, near Kiev. (Cf. *La Culture de Tripolie en Ukraine*, t. i, Kiev, 1926, p. 100.)

[5] Syncellus, *Frag. Hist. Graec.*, ii, p. 416, quoted by Percival, p. 335.

[6] Lamk. *Ency.*, ii, p. 560, quoted by Percival, p. 335.

[7] Olivier, G. A., *Voyage dans l'empire Othoman*, vi, 1807, p. 338; Percival, *op. cit.*, pp. 335–6.

[8] Percival, *op. cit.*, p. 336.

[9] Percival, *op. cit.*, p. 178; Stapf, O., "The History of Wheat," Suppl. to *Journ. Bd. Agric.*, 1910, p. 274.

same species were collected in 1910 by Theodor Strauss in the mountainous region of Western Persia near Kerind, between Kermanshah and Bagdad.[1] Percival tells me, however, that Strauss only found one plant, and that it might have been a stray.

Thus, as far as our certain evidence goes, emmer grows wild only along a strip of country ranging from South Syria to the mountains of Moab. Though claims have been made for its occurrence farther east as far as the borders of Persia, it seems possible that some of the plants found there were *T. ægilopoides* or *T. dicoccum* escaped from cultivation.

The wild dinkel or einkorn, *T. ægilopoides* Bal., has been found in Greece, between Nauplia and Corinth: it is found widely distributed on the sides of low hills in Thessaly, Bœotia, and Achaia, in South Bulgaria, and on loamy soils in vineyards in Southern Yugo-Slavia. Three varieties of it were discovered in 1909 near Balaklava in the Crimea. It has also been reported from the eastern end of the Caucasus. A larger variety has been found throughout Asia Minor, having been noted at Balamant Kaive, between Smyrna and Magnesia, in Lycia, near Amasia, in Northern Syria, and in Kurdestan on the borders of Persia.[2]

It will be seen from this that *T. dicoccoides* and *T. ægilopoides* are found on all sides of the Armenian mountains, and, if the suggestions I have made as to the original centre of *T. vulgare* can be shown to be true, this, too, originated in the same area. From this centre one or other of these plants has spread in all directions, but to a very limited extent, for we have no evidence of their existence east of the Zagros Mountains or south of Palestine, while the European distribution is limited to the immediate basins of the Black Sea and the Ægean, except that *T. ægilopoides* has, I believe, passed the source of the Vardar into the upper basin of the Morava. There is no evidence that any form of wild wheat has ever been found in Egypt or in any part of Africa. It is to some part of South-western Asia, therefore, that we must look for the region in which it was first cultivated.

The earliest evidence of wheat in Egypt is usually believed to be the fine representations of ears of *T. dicoccum*,[3] originally described as ears of "bearded barley,"[4] carved in wood, which were found in the tomb of Zer (Atoti), the third king of the Ist Dynasty. These were discovered by Petrie at Abydos in the winter of 1899–1900.

Earlier evidence of wheat is, however, available. We have seen that, in the opinion of Schulz, the grain found by Legrain and Lampre near Silsileh was barley and not wheat, but, in the winter of 1912–13, Professor T. Eric Peet found over the surface of the low mound in Region D at Abydos a range of large pots, which had been

[1] Percival, *op. cit.*, p. 178; Breasted, J. H., "The Origins of Civilization," in *The Scientific Monthly*, 1919–20, p. 315.

[2] Percival, *op. cit.*, pp. 164, 167.

[3] Percival, *op. cit.*, p. 186.

[4] Petrie, W. M. Flinders, *The Royal Tombs of the Earliest Dynasties*, pt. ii, Egypt Explor. Fund, 21st mem., 1901, p. 23, pl. v, 16.

used to dry grain, and in them a black substance in small caked masses consisting entirely of carbonized organic matter. This was full of whole grains of a cereal which was examined by Professor Harvey Gibson, of Liverpool University, who found it to be wheat (*T. vulgare*). The date of these kilns was pronounced from the nature of the pottery to be predynastic, but of which part of that period Peet gives no indication. A very similar series of pots was, however, found later not far off on the desert behind the temple of Seti, immediately outside the great temenos wall of the temple itself. Though no carbonized remains of wheat were found here, there were, lying close to the kilns, about a dozen fragments of well-known types of decorated pottery, one or two showing the spiral design.[1] This kiln, therefore, must belong to the Middle Predynastic Period.

It is permissible to doubt whether the grain from Abydos was *T. vulgare*, for all the wheats, which have hitherto come from Dynastic Egypt, have been of the *dicoccum* group: *vulgare* seems first to have been introduced in Roman times. It is by no means easy for a botanist, who is not a grain specialist, to distinguish between *vulgare* and *dicoccum* in carbonized material, but, while the species remains uncertain, we may, I think, feel confident that wheat of some sort was grown in Egypt early in the Middle Predynastic Period.

More recently, near Badari, our Fellow Mr. Guy Brunton found grain which he believes to be some kind of wheat. This has been identified by Percival as *T. dicoccum*.[2] He has informed me in a letter that the grain was found in a rough cooking-pot at a settlement at Hemamieh, between Qau and Badari, and that, judging by the pottery found there, which is rough and not very typical, the settlement would date from between S.D. 37 and S.D. 44. "A slate, a disc-shaped mace-head, and a stone vase," he adds, "would all be round about S.D. 40."

Our Fellow Miss G. Caton-Thompson has also found some grain, which has been identified by Percival as emmer, at the bottom of a ruined hut at Badari. The pottery in this hut was so rude that it was useless for purposes of dating, but after the hut had been destroyed it was covered by a layer of rubbish containing many fragments of decorated pottery, which can be attributed with fair certainty to the latter part of the Middle Predynastic Period. While one must speak with due reserve, it seems probable that this hut dates from early in that period, perhaps from the very beginning of it.

Now, it is clear that wheat, and the practice of cultivating this grain, must have reached Egypt from Asia, where the plant is native: that it arrived during the Predynastic Period is clear from the evidence cited, but at what part of this period is still to some extent uncertain. That other materials of Asiatic origin, such as the pine, cypress, incense, and resins, reached the valley of the Nile in predynastic times

[1] Egypt Explor. Fund, *Cemeteries of Abydos*, pt. II, by Eric Peet, pp. 1, 4, 9; pt. iii, by T. Eric Peet and W. L. S. Loat, pp. 1, 4, 6, 7. London, 1913 and 1914.

[2] *Nature*, cxix, p. 158.

has been made clear to us by our Vice-President Professor P. E. Newberry,[1] but he gives us no idea as to what part of the period it was in which these imports first arrived.

Frankfort is of opinion that "the earliest remains which point definitely to a Syrian source of origin are the 'wavy-handles' jars which appear in the beginning of the second prehistoric civilization (S.D. 40)."[2] He finds pottery of very similar type in the earliest strata in Southern Palestine. From this date on, and conceivably before, there was intercourse between Egypt and Asia; and emmer, which grows wild in Syria and Palestine and which, presumably, was first cultivated in that region, could easily have been carried into Egypt. It is all a question of sequence dates. Since the wheat at Badari and Abydos are from deposits not earlier than S.D. 40, the explanation seems plain, and unless grains of wheat are found in Egypt, which can be placed with confidence earlier than S.D. 40, we must conclude that wheat, at any rate, if not barley also, was introduced from Syria into Egypt with wavy-handled pots and pear-shaped mace-heads in or about S.D. 40.

Such a conclusion would be in accord with an ancient tradition that the Egyptian goddess Isis discovered "wheat (*πυρός*) and barley growing promiscuously about the country along with other plants, and unknown to mankind."[3] The country to which this refers is stated to have been "Nysa, a high mountain of Phœnicia far away."[4] This is clearly the region in which Aaronsohn found wild emmer and wild barley growing together.

If, however, we admit with Elliot Smith that barley was first grown by the predynastic Egyptians, we must also admit that the idea of cultivating grain passed in early predynastic days from Egypt to Syria, for which no evidence is forthcoming, or else we must believe that the cultivation of the two grains in two unconnected regions arose independently.

I have left myself very little time to deal with the other elements of civilization, the domestication of animals, the making of pottery, and the working of metals.

Though some attempts have been made to show that animals were domesticated by men of the Upper Palæolithic Age, these efforts have not been very successful. Of the times that follow little is known, for, though careful study has been made of animal remains from European sites, these are far from the beginning of civilization. The same is true of the remains from Anau, so ably described by Duerst,[5] for the first settlement there was clearly not of so early a date as has been claimed for it by Pumpelly, and must be later than the fine painted pottery of Mesopotamia and the predynastic civilization in Egypt.

[1] Newberry, P. E., "Egypt as a Field for Anthropological Research," Brit. Ass. Report of the Liverpool Meeting, 1923.

[2] Frankfort, *op. cit.*, p. 104; Petrie, *Diospolis Parva*, p. 15; *Naqada and Ballas*, pp. 11, 88 *sqq*

[3] *Diodorus Siculus*, i, p. 4.

[4] *Ibid.*, i, p. 15.

[5] Pumpelly, R., *Explorations in Turkestan*, ii, Washington, 1908, pp. 167–8.

De Morgan found in kitchen-middens of predynastic date remains of antelopes, gazelles (*Gazella isabella*), goats (*Capra thebaica*), as well as the buffalo (*Bos bubalus*).[1] The first two of these may well have been the remains of wild animals hunted for food: the sheep and the goat are not native to Africa and must have been introduced from Asia, while the Barbary sheep has never been tamed.[2] Skeletons of two breeds of cattle (*Bos macroceros* and *brachyceros*) and Asiatic sheep were also found in the kitchen-midden at Tukh.[3]

There is some uncertainty as to whether the ox is native to Egypt. De Morgan states that it was introduced from Asia at an early date, but Newberry mentions wild oxen among the wild beasts hunted in the time of the Old Kingdom.[4] That the wild ass (*Asinus taeniopus*) roamed the deserts on the Egyptian border and was domesticated before the close of the Predynastic Period is clear from the appearance of herds of asses as well as flocks of sheep on the palette of Menes.[5] We have thus no clear evidence that the Egyptians had domesticated any native animal before relations had been opened up with their Asiatic neighbours.

In Mesopotamia our evidence is equally inconclusive. The people of the first settlement of Susa had, apparently, no domesticated animals except the dog, which is often found among hunting peoples, ancient and modern. The claim that they had tamed the horse rests on a figure on one of their vases. In the first place it is extremely doubtful if the animal depicted was intended for a horse, and, even if it were, it might well be an illustration of a wild horse hunted for food.[6] At Tell el-'Obeid, Dr. Hall found a frieze of dairy cattle, dating from the time of the Ist Dynasty of Ur,[7] but it is clear from that frieze that oxen had then been domesticated in Mesopotamia for a long time. It seems likely that most animals were first domesticated by nomad or semi-nomad peoples, and these leave little traces of their mode of living.

The origin of pottery is a far more difficult problem, and the evidence available at present is insufficient to enable us to determine the centre or centres at which it was first made. Frankfort has, I think, established that the earliest wares yet found in South-west Asia are those from the first settlement at Susa, and that these precede the wares at Tepeh Musyan as the latter precede those at Abu Shahrain, el-'Obeid, and elsewhere in Mesopotamia.[8] He believes that the pottery at Susa, which he has shown to have been formed on a leather model, may well have originated there, but this I am inclined to doubt, as the technique is in many ways far from primitive.

[1] Morgan, J. de, *La Préhistoire Orientale*, Paris, 1926, p. 73.
[2] Newberry, *op. cit.*, p. 168.
[3] Morgan, J. de, *Prehistoric Man*, London, 1924, p. 168.
[4] Newberry, *op. cit.*, p. 3; cf. Borchardt, *Grabdenkmal des Königs Sahure*.
[5] Capart, *op. cit.*, fig. 175, p. 236.
[6] *Corpus Vasorum Antiquorum*, Louvre, I.C. a, pl. 9, 25.
[7] *Antiquaries' Journal*, iv, 1924, pl. xlii, a.
[8] Frankfort, *op. cit.*, p. 59.

On the other hand, no wares have been found elsewhere that can be considered ancestral to those of Susa.

Frankfort has also disposed satisfactorily of the suggested connection between the wares of Susa and those of Anau, and has shown that the latter are far from primitive, while the site is by no means as early as Pumpelly suggested.[1] The neolithic pottery in Crete also stands by itself. Though we have learned from Susa and Anau to distrust chronologies based upon the depth of the deposits, we must admit that the plain burnished wares found at Knossos go back far into the Predynastic Period of Egypt, though how far it would be hazardous to conjecture.

The Badarian ware,[2] discovered since Frankfort wrote, is probably earlier than any of the others mentioned, though very possibly not much earlier than that from Susa I. Though differing completely in form and decoration from the latter, it, too, seems to be based on leather models.

The painted pottery of the Black Earth region,[3] of Erösd, Cucuteni and the site recently found at Usatov near Odessa, appears to bear some distant relationship to the wares at Anau; it seems, at any rate, possible that common ancestral forms may have existed at some intermediate centre such as Transcaucasia. The painted wares recently found in China,[4] and perhaps those, too, from Baluchistan, Sind, and the Punjab, may very likely be later and more remote members of the same group.

Frankfort, noting that the shape of some of the painted pots of Predynastic Egypt resembles that of the early stone bowls, brings the art of painting pottery from the Eastern Desert, where he believes the stone bowls originated.[5] Newberry, on the other hand, arguing from the fact that the majority of the ensigns on the boats figured on the ovoid pots bear the crests of Nomes situated in the north-west corner of the Delta, would bring this art from that region.[6] There is probably some truth in both suggestions. If we agree that stone bowls came from the Eastern Desert and painted ovoid pots from the Delta, the other painted pots may well be derived from a fusion of the two cultures. There remains, however, the problem: Did the art of painting pots arise in the Delta, and if so did it pass thence to Syria, or did it reach the Delta from the north-east?

The most perplexing fabric, however, is that found in the shell mounds by the shores of the Lake of Braband, about three miles from Aarhus in Jutland.[7] These

[1] Frankfort, *op. cit.*, p. 84.

[2] Petrie, Sir Flinders, in *Man*, xv, 78; xvi, 34.

[3] Childe, V. Gordon, *The Dawn of European Civilization*, London, 1925, pp. 152–60.

[4] *Palæontologia Sinica* (Geological Survey of China), Ser. D, vol. i, fasc. 1 and 2, Peking, 1923, 1925; Andersson, J. G., "An Early Chinese Culture," *Bull. Geol. Surv. of China*, Peking, 1923; "Archæologische Studien in China," *Mitt. Anthrop. Ges. in Wien*, liv, Wien, 1924, pp. 60 *et sqq.*

[5] Frankfort, *op. cit.*, p. 100.

[6] Newberry, *op. cit.*, p. 10.

[7] Madsen, A. P., Sophus Muller, and others, *Affaldsdynger fra Stenalderen i Danmark*, Copenhagen, 1900.

mounds are thought to contain refuse of one of the earliest settlements of the shell-mound culture, yet in all the layers but the lowest fragments of pottery were found. No pottery resembling it has been found to the south-east, nor has any pottery been found in Europe that can be placed as early as the date claimed for this settlement.

On the other hand, it seems unlikely that these otherwise unprogressive collectors of shell-fish should have made so important a discovery. The ware is somewhat rough, it is true, but its shape gives no indication of its origin. It is natural, therefore, that some writers have suspected that the potter's art must have been introduced here from elsewhere.

The occurrence of this pottery is, as I have said, perplexing. The most plausible explanation that has been offered is that the sherds belong only to the latest phase of this culture, and that this primitive mode of life lasted in Denmark much later than has been suspected; while the potter's art was introduced by new-comers from the south-west. Childe[1] has pointed out that a pot, not unlike one from Braband, especially in the shape of its base, was found in a neolithic deposit at El Garcel in the south-east of Spain. Whether this resemblance indicates true relationship, or is merely a matter of accident, must for the present remain uncertain.

Among metals it is generally believed that gold was the first to be used, perhaps only in a hammered condition. No evidence of this priority has yet been adduced. Copper, on the other hand, has been found in the two earliest civilizations that we have met with as yet. Brunton has told us that round the neck of one of the Badarians was a string of typical Badarian beads, two or three of which were made of narrow copper ribbon, wound over stone beads. In another grave of the same period was a stout copper pin or borer.[2] In the first settlement at Susa there were primitive axes of copper.

The discovery of the first metallurgical centre, where copper was first smelted and cast, seems a more hopeful problem, and a Committee has been appointed by the British Association to investigate this question. Its energetic Secretary, our Fellow Mr. G. A. Garfitt, has already obtained a number of ores, with the help of the Department of Overseas Trade and the aid of several of our Consular Officers, while Professors Cecil Desch and C. O. Bannister have kindly undertaken to report on all the material sent to them. The officials of many museums, including our Fellow Dr. H. R. Hall, have generously supplied the Committee with many samples of early copper, while Professor Thureau-Dangin has been most kind in sending fragments from one of the axes from the first settlement at Susa, preserved in the Louvre.

It is hoped that by comparing the proportions of various impurities found both in the ores and in the implements, it may be possible to determine which of the

[1] Childe, *op. cit.*, p. 42.

[2] Brunton, G., *Man*, xxv. 103.

former were used for the manufacture of the latter. Much more work needs to be done, however, before any definite conclusions can be reached. It is noteworthy, however, that the axe from Susa is made of pure copper.

It will be seen from what I have said that it is impossible at present to determine the centre at which any of the four chief elements of civilization arose, except that the cultivation of wheat must have arisen in Syria, or at no great distance from that country. It is even uncertain that any of them, except wheat cultivation, arose at one site alone. We must still pursue our researches, and the time may not be far distant when we shall be able to determine with precision the rival claims of Asia and Africa, and to decide whether these discoveries were made at single or multiple centres.

THE NORTHERN BEJA.

[With Plates I and II.]

By G. W. Murray.

These notes are the outcome of four winters spent in the Eastern Desert of Egypt among the Bisharin and the Ababda; and although I have already contributed an article on the latter tribe,[1] yet the further evidence collected, particularly their physical measurements, confirms and supplements Professor Seligman's study of the Hadendoa and the Beni Amer[2] to a degree that seems to warrant a return to the subject.

Physical.

In that part of his memoir which deals with the Beja, Professor Seligman has shown that the Beni Amer, the most southerly of the Sudanese Beja, possess a remarkable similarity to the old proto-Egyptians, while the Hadendoa, though probably of common origin, were a modified race, taller than the Beni Amer, and with broader skulls. In length, however, the crania of the two tribes were almost identical.

From measurements taken by Chantre,[3] who, unfortunately, only published indices, this tendency to a broader skull was carried even further in the Bisharin, the most northerly of the Beja examined by Professor Seligman in his memoir.

It was therefore most interesting to me to find that measurements of the Ababda, who live further north again in the deserts immediately adjacent to Upper Egypt on the east, showed a marked resemblance to those made by Professor Seligman of the Beni Amer (and so to the proto-Egyptians), in spite of their separation from the Beni Amer by the Hadendoa and the Bisharin.

Another interesting point is that, when I began to measure the Bisharin (Hamedorab) on the Red Sea coast, between latitudes 23° and 22° N., their measurements appeared discordant with those of Chantre, mentioned above, their cephalic index being only 74·73, as against 79·0, which he gives for 70 individuals measured presumably in or near the Nile Valley. Their stature, too, was markedly greater. It was not till I had carried the investigation further, and measured some of the Bisharin (Aliab) living inland that I found a cephalic index 78·42 more in accordance with his data. Frequency-curves of these two sub-tribes, drawn for me by Mr. F. S. Richards, certainly indicate that the Hamedorab are a more mixed

[1] G. W. Murray, "The Ababda," *Journ. Roy. Anthrop. Soc.*, liii, pp. 417–23.

[2] C. G. Seligman, "Some Aspects of the Hamitic Problem in the Anglo-Egyptian Sudan." *Journ. Roy. Anthrop. Soc.*, xliii, pp. 593–704.

[3] M. E. Chantre, *Recherches Anthropologiques*, p. 255, Lyon, 1904.

lot than the Aliab: and the explanation of this is perhaps to be found in their tradition that Hamed Or, their ancestor, married a wife from the Ababda. One may consider this as another way of saying that they consider themselves a mixed section with a lot of Ababda blood in them.[1] Another possible source of foreign influence here was the existence in mediæval times of a seaport 'Aidhab, which had considerable trade with Arabia and even the Far East. But 'Aidhab was destroyed as long ago as 1426, and one would fancy its influence to have died out. There were, however, Arabs, Heteym, *i.e.* outcasts, settled on the coast here as recently as 1887, when they were deported to south of Suakin.

A third point is, that among the 54 Hadendoa measured by Professor Seligman were 14 Amar Ar[2] (he calls them "Amara"). As the Amar Ar are also dwellers on or near the coast, I thought it worth while to separate their measurements from those of the 40 Hadendoa, and to add those of two Amar Ar measured by myself, in order to see whether the Hamedorab and the Amar Ar formed connecting links between the narrow-headed Beni Amer and Ababda to the south and north of them respectively. But, rather to my surprise, the 16 Amar Ar turned out to have the broadest skulls (mean H.B. 147·4) of all the different tribes we have been discussing.

It is convenient now to give two tables, founded on those on p. 601 of Professor Seligman's article, but incorporating my measurements of Ababda and Bisharin, and separating the Amar Ar from the Hadendoa as mentioned above. We have in order of cephalic indices:—

——	No.	C.I.	N.I.	F.I.	Stature.
Group I (Central)—					
Bisharin (Chantre)	78	79·00	76·08	104·12	1·650
Bisharin (Ahab)	30	78·42	72·52	92·36	1·680
Amar Ar	16	77·18	70·25	90·51	1·666
Hadendoa	40	76·13	72·78	92·71	1·674
Group II—					
Beni Amer	51	74·70	70·52	92·12	1·643
Bisharin (Hamedorab)	30	74·73	73·61	94·72	1·695
Ababda	62	73·68	75·15	91·78	1·636

[1] The measurements of both Hamedorab and Aliab were submitted by Professor Seligman to Dr. E. C. Rhodes, who says: "Taking all this evidence together, I should infer that the two lots of skulls measured do not belong to the same type." (*See* Appendix V.)

[2] *Or* and *Ar* mean "child," "children" in Bejawi: and *-awi*, pl. *-ab*, "follower." So *Hamed-Or-ab* = "Hamed-son-ites," and *Amar Ar* = "children of Amar."

and for the absolute measurements from which these indices are derived :—

——	No.	H.L.	H.B.	N.L.	N.B.
Group I (Central)—					
Bisharin (Aliab)	30	184·7	144·1	51·2	36·7
Amar Ar	16	199·6	147·4	52·3	35·8
Hadendoa	40	189·8	144·4	51·9	37·0
Group II—					
Beni Amer	51	190·5	142·2	51·9	36·6
Bisharin (Hamedorab)	30	188·6	140·8	50·5	37·1
Ababda	62	188·1	138·5	49·1	36·8

That the second group is more likely to represent the primitive population of the country between the Nile and the Red Sea seems probable, when one compares their skulls with those of the early Egyptians, as Professor Seligman does on p. 606 of the article already referred to. I abstract part of his table, and add the Ababda, subtracting, as he does, 7 mm. from the lengths and 8·5 mm. from the breadths of the living skulls :—

——	No.	H.L.	H.B.
Beni Amer	51	183·5	133·75
Ababda	62	181·1	130·0
Earliest pre-dynastic Egyptians from Naga-ed-Deir ...	45	184·8	131·5
Middle Nubians ("C" group)	123	183·0	134·0

One may add, that in stature the Beni Amer measure 1·643 m., the Ababda 1·636 m., and the pre-dynastic Egyptians about 1·63 m.

To reinforce the theory that these modern Beja are representatives of the old pre-dynastic Egyptian (and Nubian) stock, we have a very little evidence—only three skulls, of earlier inhabitants of the Eastern Desert. Such as it is, this evidence

all goes to show that the very narrow-headed type has prevailed there from the pre-dynastic times. We have three burials excavated by myself :—

Locality.	Period.	H.L.	H.B.	C.I.
Ras Samadai[1]	Pre-dynastic	185½	129	69·54
Wadi Khashir	Pre-Moslem	187	129	70·11
Wadi Kiraf	Pre-Moslem	188	128	68·09

Consideration of the above data leads me to share Professor Seligman's opinion that the Beni Amer (to whom the Ababda must now be added) are relics of the early population of not only the Eastern Desert, but also of the Nile Valley : while the central Beja, the Hadendoa, and the Bisharin are kindred peoples modified by foreign influence. The Hamedorab Bisharin are probably a fusion of the central Beja with the Ababda.

The Hamedorab are the Bisharin who were so hostile to Schweinfurth in 1865, and of whom he says :[2] "The Bisharin are, like their related stock the Ababda, all dolichocephalic, and show it by elevated, yet very narrow, skulls. In the general expression of the face, there were more analogies with Europeans than with the Arabs and *fellahin*. There were Titus-heads, Schiller-noses, and Habsburg-foreheads ; indeed, their features showed plenty of variety. The often astonishingly small lips limited the tightly closed, almost American, mouth, on which, as on their long necks, the hardships of their desert existence had impressed itself. The eyes, large and open, are of changing expression. Remarkable appeared the particularly luxuriant muscular development, especially of their legs, which strongly differentiates them from the Berberines with their ape-like extremities. Every man's bearing is gracious and full of charm and dignity ; their walk almost to be called bold. The shades of skin-colour range through all possible gradations between copper-red and the deepest brown-black. Whether this is the result of mixture with other races I dare not assert, but must refer to the fact that travellers speak of a similar variety of hue among all Ethiopian races."

Professor Seligman has some remarks[3] on the possible foreign elements which have caused the tendency to brachycephaly and the rise in stature among the central Beja. I would add that these people, especially the Hadendoa, have for centuries been in contact with Negro pilgrims on their way to and from Mecca. These Negroes do not merely pass through, but are in the habit of settling in the Tokar delta for a

[1] This burial was described by Dr. D. E. Derry and myself in *Man*, 81, 1923. The other two contained nothing by which to date them.

[2] G. Schweinfurth, *Auf unbetretenen Wegen in Aegypten*, p. 69 ; and *see also* pp. 103–8.

[3] *Op. cit.*, pp. 602–3.

year or two in order to earn money for their journeys by cultivation. Also, during the last century the Hadendoa and the Bisharin engaged actively in the slave-trade. A quite other source of foreign influence may have been intermarriage in mediæval days with Yemenite colonists from Hadramaut. Makrizi, indeed, regarded these people, the Hadareb, as the ruling caste among the Beja.[1]

The individual measurements will all be found in the Appendices I–IV, and before we leave the subject I may say that all the individuals measured were males: and that, just as Professor Seligman took care to select only genuine Beni Amer, so only real desert-dwelling Ababda were measured, whose ancestors were unlikely to have intermarried with the Egyptian *fellahin*. Nomads are, however, more likely to influence the sedentary populations beside whom they dwell than to be influenced by them. Two large divisions of the Ababda are settled in the Nile Valley, and must considerably have influenced the population in the provinces of Qena and Aswan (also during the famine of 1889 quite a number of the Bisharin came north through the Ababda and settled in the Nile Valley near Qus). Nomadic tribes influence each other: in time, weak tribes get broken up and disappear, and their fragments affiliate themselves to stronger and sometimes quite new confederations. The Dervish wars brought numbers of such people, Kimeilab, Hukm, Hameg,[2] Anqarab, northward to the Ababda country: and, during the recent census, I estimated such elements as forming about 3 or 4 per cent. of the desert Ababda, who are about 14,000 strong. Care was taken to avoid such people in the measuring.[3]

Circumcision and Marriage Ceremonies.

Circumcision.

Nowadays, owing to a fear of a disease "that attacks uncircumcised boys," boys are usually circumcised within a few days of birth, but until recently the following custom prevailed. Ten or twelve boys, of seven to eight years of age, were circumcised together on the first day of a festival lasting four or five days. They were dressed in new clothes, the finest procurable, and in the case of Bisharin boys wore a silver bracelet and gold earrings, borrowed from the *harim*. One may note here that Masai youths dress as girls at their circumcision.[4] and, according to Lane,[5]

[1] Translation in Burckhardt's *Travels in Nubia*, p. 512.

[2] H. C. Jackson says: "*Hameg*, a name used by the Hadendoa to denote an ignorant people, in other words, those who are still in the dark pre-Islamic days" (*Osman Digna*, p. 56). But a section of the Ababda call themselves Hameg.

[3] Such fragments are quite easily separated by asking individuals about their ancestors. All Bedouin, whether Hamitic or Semitic, are properly proud of their pedigrees.

[4] Hollis, *The Masai*, p. 298.

[5] Lane, *Modern Egyptians*, p. 62. I have been unable to trace such a custom among the present-day *fellahin*.

a similar custom used to occur among the Egyptian *fellahin*. After the operation, the boys lived together in a special matting-hut erected for them, together with the sheikh who had performed the operation. He seems merely to have attended to their material welfare, not to have imparted any particular instruction. At the end of this period a sheep was killed for each boy, and a great feast made. At the next new moon, the Ababda boys, who have not yet worn ornaments, borrow a piece of gold from their female relations, "to show to the moon." Both tribes infibulate their girls, but there is no festivity or ceremonial attached to this custom.

Marriage.

Perhaps on account of their greater poverty, or perhaps not, the foregoing ceremonial may be combined, in the case of the Ababda, with that of a marriage. They call both festivals indifferently *'irs*, the ordinary Arabic name for a wedding. In this case, the hut, which is later to be inhabited by the newly wed couple, is pitched for both the groom and the boys who are about to be circumcised. The matting for the hut is provided by the groom, but the tent-pole must come from the bride's parents.[1] The tent must be pitched after the sun has set (Ababda) or about sunset (Bisharin). The hut is placed about fifty or sixty yards from the hut where the bride-to-be is living with her mother. The groom stays outside (Ababda) or inside (Bisharin) till the *harim* bring the bride, and circle the hut seven times widdershins with her.[2] Then they go inside. The bride's arms are tied to her side with a strong goat's-hair cord, which the groom now essays to break. A sort of scuffle with definite rules now takes place in the dark within the hut. If the groom cannot break the cord the bride is taken back to her mother, and he has to try again on the ensuing night. If the cord is broken, but the *harim* get away with it, he has to ransom it from them with a sheep. This cord, for which there is no special name, is later hung on the tent-pole or, rather, curved girder, which supports the roof. The cord broken, the women take the bride back to her mother.

Next day, if the festival includes a circumcision (Ababda), the boys are circumcised, and they and the bridegroom dwell in the hut for five to seven days. After the festivities are over, and the boys have departed, the hut is moved, it may be only a few feet.[3] After the move the groom lives in the hut for forty days (in the case of the Aliab Bisharin, a year), and the bride visits him under cover of darkness.[4] During these forty days the bridegroom may not milk, slay an animal,

[1] So, too, with the Hadendoa, but among the Amar Ar and the Kababish the groom supplies the tent-poles.

[2] With the Hadendoa and the Amar Ar, the new hut and the furniture is packed on a camel, which is then led round the bride's mother's hut seven times, with the women singing and trilling behind it. (*Communicated by Mr. J. W. Crowfoot.*)

[3] This corresponds to the building of the Kababish *hegil* in place of the temporary tent. C. G. and B. Z. Seligman, *The Kababish*, p. 134.

[4] So with the Hadendoa. C. G. Seligman, *op. cit.*, p. 650.

prepare bread, or leave the camp. His food is cooked for him by the bride's mother. Her, of course, he must avoid, nor must he ever eat from the same dish as the bride's father. For the first five days or so he covers his mop of hair with his cloth wrap (*shuqqa*). Then a sheep is killed for him, and he anoints his hair with the grease. The *serir*, or bed, made by the bride's people, is not presented to the young couple for some months, or it may be a year.

One may observe that the disability to milk or slay is a feminine attribute, as is the covering-up of the hair. It would seem as though the manhood of the youth at circumcision and the man at marriage had to be concealed from the evil spirits by his disguising himself as a girl. The sun, too, seems to be avoided. The hut must be pitched after sunset, it is circled widdershins: the bride must only see the groom at night. There is a general resemblance in the ceremonies to those prevalent throughout the Northern Sudan, but the Ababda are alone in sometimes combining wedding and circumcision ceremonies. Both are *rites de passage*, celebrating the commencement of a new existence. And what does the breaking of the cord symbolize? Certainly the deliverance from some inhibition which has prevented the enjoyment of the new life.[1]

Such customs are beginning to be looked down upon by the more orthodox Moslems among them as "*'âda-t Fanor*," i.e. "customs of Pharaoh." More genuine links with Egyptian culture are their head-rests (*metar as*) and their throwing-sticks (*bilbil*).

The married women are allowed unusual freedom by the Bisharin, but not among the Ababda. This is the case with most of the Beja. Plowden says of the Habab in Eritrea:[2] "The unmarried girls are preserved from early irregularity by strict precautions, but they indemnify themselves after marriage for all restraint. What distinguishes this tribe from almost all others is the absence of jealousy in the husband, insomuch as he permits his wife a perfect liberty, taking only her gains." So, too, Crossland,[3] of the Amar Ar: "A woman is the more valued by her husband if she gives proof of her attractiveness to other men, even by adultery: he has no resentment against his wife, his honour being satisfied by an attack with his dagger on the first meeting with his rival." According to Karait Batran, their ex-sheikh, things are exactly the same with the Hamedorab Bisharin. One may add that, among the Bisharin, the dowry (*mal* or *mahr*) is divided equally between the father, mother, and father's brother of the bride. The dowry usually consists of a camel and a sheep for each of these, and perhaps two more camels for her other male relatives to eat. Women do not assume nose-rings till after marriage.

[1] Among the Danagla of a century ago, a knotted linen-band was untied prior to the breaking of the *rahat* or maiden's girdle by the bridegroom. The Beja I know do not break the *rahat*, but the Kababish do. See G. A. Hoskins, *Travels in Ethiopia*, London, 1835, pp. 190–1.

[2] W. C. Plowden, *Travels in Abyssinia*, p. 14.

[3] C. Crossland, *Desert and Water Gardens of the Red Sea*, p. 26.

BELIEFS ABOUT ANIMALS AND PLANTS.

After remarking on the absence of totemism and animal cults among the Beja, Professor Seligman[1] goes on to detail some remarkable customs connected with milk and cattle. It is as true of the Ababda, as it is of the other Beja, that no man may drink of the milk he has himself drawn until someone else has drunk of it.

The Bisharin have nowadays no cows, but long ago they, or some people living in their present territory, did possess these animals, and they were buried in cemeteries with some care.[2] In this connection, I would quote Plowden[3] on the Habab: "In each small village there is kept a cow of one breed from generation to generation, on which the good fortune of the entire herd depends. This cow (or they may be two) is milked in peculiar vessels, and the milk must be drunk out of those vessels, as it would be sacrilege to drink it out of any other: these are of earthenware, whilst the other cows are milked into wicker-work vases. Should this ceremony be omitted or varied, it is supposed that the cows of the tribe would become dry, or die: and this, amongst a people who feed, it may be said, on milk, would be equivalent to a famine." In this case, I would suggest that it is not the cow which is venerated, but the deity or saint to which its produce has been dedicated. It is common among the Ababda to dedicate the milk of a beast to their patron saint, Shadli, and the milk of such beasts is always milked into separate (wicker) vessels lest it become mixed with the milk of some other animal.

Among both Bisharin and Ababda, a curious belief is held about the animals sacrificed at the tomb of a *wely* (Moslem saint) (Pl. II, Fig. 1). Such animals turn into gazelles or ibex, and any attempt to shoot such animals is severely punished by the *wely*. Usually the rifle used will not shoot straight for some considerable time, and the hunter is often personally afflicted. Recently a hunter wounded one of such animals, a gazelle, in Wadi Kharit. Immediately a voice was heard saying, "You have wounded my goat!", and the hunter was afflicted with madness: an old man cured him, but wisely forbade him to go hunting again. A Bishari, who killed an ibex of this nature, was less fortunate. This beast was found to have its teats tied up with silk (to wean its kids). He died, and his gun was never any more good. Yet another, who killed a gazelle near a tomb, got his face smashed in with a stone while he was cooking it. He lives to tell the tale, and to be thankful that the spirit did not hit him from behind, "when I would certainly have been killed!"

Fish are eaten by some of the Ababda and Bisharin who live on the coast, but to the inland folk they are *tabu*, and so are birds.[4] Birds are even feared. I caught Muhammad Buleib, an Aliawi guide, stoning a small bird one day, which he said

[1] C. G. Seligman, *op. cit.*, pp. 653–8.

[2] G. W. Murray, "Graves of Oxen in the Eastern Desert of Egypt," *Journal of Egyptian Archæology*, XII, 1926.

[3] W. C. Plowden, *op. cit.*, p. 14.

[4] Burckhardt noted this among the Bisharin on the Atbara in 1814 (*Travels in Nubia*, p. 378).

had been prophesying evil to him. Earlier in the winter a croaking raven had warned him of coming evil, and eight days later he had heard of his brother's death. The Ababda will not kill the sandgrouse or desert partridge, and both tribes are particularly afraid of killing or harming the bearded vulture, *Gypætus barbatus*.

Certain trees and bushes, especially one called *ashei-t*, with aromatic gum, must not be cut down, or evil will befall the camels. (No wonder the Hamedorab objected to Schweinfurth prying about in the Elba Mountains.) Sprigs of others are of great virtue as charms. Karait declared that in one of his quarrels with an angry husband who possessed such an amulet, he cut him twice on the leg as hard as he could with his sword: but his opponent was uninjured, and Karait was glad when friends came to separate them. Ali Kheir, an Abadi who was employed to collect plants, was afraid of a rare plant, *kurdum*, a species of *Cleome*, and would not gather anything that even looked like it: "It exudes blood when uprooted like a human being. It is good to give your wife to make her love you: but, in pulling it out of the ground by the roots, a donkey or a dog ought to be employed. A Negro will do, or a man without any property, but these will expect something for their trouble."

My remark,[1] "Abadi twins do not turn into cats at night as the *fellah* twins do," ought to receive the explanation, "because they are given camel's milk as soon after birth as possible to prevent this."

[1] G. W. Murray, "The Ababda," *Journ. Roy. Anthrop. Soc.*, liii. p. 420.

Appendix I. Ababda (62 Ashabab).

No.	H.L.	H.B.	C.I.	Bi-z.	F.L.	F.I.	N.L.	N.B.	N.I.	Min. Front.	Bi-g.	Total Facial.	Naso-buccal.	Naso-alv.	Circ.	Stature.
1...	178	139	78·09	138	113½	82·25	49	42	85·71	109	104	189	67½	60	543	1·750
2...	183	138	75·41	117	104½	89·32	44	36	81·82	100	86	163	63	54	540	1·725
3...	199	146	73·37	128	120	93·75	45½	33	72·53	106	96	179	76	66	579*	1·664
4...	181	138	76·24	126	105	83·33	46	40½	88·04	108	100	159	64	58	536	1·595
5...	196	147	75·00	125	111	88·80	57	40	70·18	106	100	185	75	63	561	1·640
6...	195	136	69·75	124	119	95·97	48	36	75·00	107	93	181	75	65	548	1·686
7...	176	144	81·82	126	111	88·10	58	43	74·11	107	98	173	75	68	538	1·708
8...	200	143	71·50	129	110	85·27	46	36	78·26	101	103	186	67	62	562	1·684
9...	182	138	75·83	132	115	87·12	48	39	81·25	110	106		70	61	536	1·686
10...	198	139	70·20	126	112	88·89	46	37	80·43	100	99	184	67	58	560	1·670
11...	184	135	73·37	130	109	83·85	46	41	89·13	99½	100	178	67	59	526	1·642
12...	190	130	68·42	118	120	101·70	47	33	70·21	106	105	181	71	60	548	1·709
13...	184	134	72·83	130	112	86·15	53	33	62·26	99	108	165	69	65	530	1·643
14...	182	146	80·22	121	121	100·00	50	33	66·00	95	92	178	68	56	551	1·553
15...	195	134	68·72	124	116	93·55	46	38	82·61	100	96	183	67	54½	547*	1·618
16...	179	138	77·10	130	114	87·69	49	37	75·51	108	94	175	72	63	539*	1·637
17...	192	134	69·79	121	104	85·95	49	38	77·55	100	99	160	56	55	530	1·625
18...	200	148	74·00	136	114	83·82	50	39	78·00	109	102	184	70	65	568	1·667
19...	190	145	76·32	120	120	100·00	51	39	76·47	106	100	183	71	65	558	1·665
20...	180	140	77·78	127	118	92·91	48	31	64·59	108	100	176	74	67	560	1·653
21...	187	144	77·01	126	122	96·83	52	37	71·16	100	101	181	74	67	568*	1·496
22...	188	140	74·47	124	116	93·55	48	34	70·83	106	100	184	71	64	543	1·562
23...	184	134	72·82	123	114	92·68	46	37	80·43	104	108	175	71	61	540	1·486
24...	193	142	73·58	131	121	92·37	51	36½	71·57	108	105	179	71	64	570*	1·648
25...	185	136	73·51	126	118	93·65	45	37	82·22	106	100	170	63	54	550*	1·567
26...	196	142	72·45	120	110	91·67	44	32	72·73	101	91	183	64	56	573*	1·555
27...	196	146	74·49	139	116	83·46	51	37	72·55	108	107	180	70	61	580*	1·662
28...	180	140	77·78	129	120	93·02	54	36	66·67	106	100	169	77	64	549*	1·592
29...	190	144	75·79	129	116	89·92	52	35	67·31	106	105	167	73	63	572*	1·567
30..	179	130	72·63	125	112	89·60	47	37	78·72	99	102	169	62	58	538	1·618
31...	189	133	70·37	127	113	88·98	42	37	88·10	105	95	179	65	59	540*	1·663
32...	186	136	73·12	125	106	84·80	51	35	68·63	104	94	161	68	60	538	1·656

* Means that the individual had a large mop of hair.

APPENDIX I.—*contd.*

No.	H.L.	H.B.	C.I.	Bi-z.	F.L.	F.I.	N.L.	N.B.	N.I.	Min. Front.	Bi-g.	Total Facial.	Naso-buccal.	Naso-alv.	Circ.	Stature.
33...	190	130	68·42	120	110	91·67	44	36	81·82	102	98	184	68	60	570	1·769
†34...	183	130	71·04	110	109½	99 55	50	40	80·00	100	95	174	70	61	555	1·586
35...	196	142	72·45	123	124½	101·22	51	38	74·51	106	100		78½	73	557	1·590
36...	186	132	70·97	122	120	98·36	48½	32	65·98	104	86	189	71	65	527	1·595
37...	193	133	68·91	124	122	98·39	51	33	64·71	107	100	183	72	63	558*	1·750
38...	190	136	71·58	128	122	95·31	52	42	80·77	109	101	183	75	67	538	1·653
39...	187	135	72·19	123	120	97·56	52	38	73·08	107	91	-	74	66	541	1·570
40...	188	140	74·47	130	114	87·69	51	37½	73·53	108	107	187	71	63	548	1·592
41...	187	141	75·40	130	128	98·46	56	33½	59·82	109	103	-	77½	71	547	1·708
42...	178	137	76 97	131	119	90·84	48	37	77·08	104	103	166	72½	61	513	1·598
43...	196	136	69·39	130	121	93·08	53	39½	74·53	105	99	-	71	67	546	1·677
44...	192	137	71·35	118	113	95·76	45	40	88·89	104	101	167	68	59	570	1·683
45...	184	134	72·82	109	107	98·16	51	36	70·59	105	86	169	61	62	542	1·620
46...	194	141	72·68	130	125	96·16	53	39	73·59	109	110	190	75	67	570	1·676
47...	184	145	78·80	127	114	89·76	46	36½	79·35	109	99	-	69	62	546	1·721
48...	176	136	77·27	120	110½	92·08	46	36½	79·35	102	102	179	69½	59	524	1·618
49...	190	142	74·74	144	125	86·81	52	36	69·23	104	108	189	79½	67	548	1·615
50...	180	138	76·67	124	122	98·39	52	42	80·77	104	104		71	69	530	1·710
51...	190	136	71·58	128	120½	94·14	47	39	82·98	106	108	184	71	59	557*	1·641
52...	190	140	73·68	130	109	83·85	44	46	104·55	104	103	185	64	58	540	1·602
53..	188	137	72·87	120	108	90·00	51	34	66·67	101	91	173	65	62	537	1·706
54...	194	140	72·17	121	111	91·74	48	33	68·75	99	95	174	68	59	548	1·675
55..	194	139	71·65	127	114	89·76	51	32½	63·73	100	96	175	70	64	559	1·662
56...	192	146	76·04	130	115	88·46	53	39	73·59	103	100	185	70	66	555	1·625
57...	201	137	68·16	120	110	91·67	43	39	90·70	104	90	182	66	63	568	1·538
58...	181	139	76·79	118	121	102·54	55	32	58·18	96	97	184	78	69	540*	1·585
59...	196	134	68·37	124	112	90·32	47	32	68·09	100	96	179	70	59	541*	1·547
60...	176	134	76·14	129	107	82·95	50	37	74·00	100	99	166	72	61	525	1·607
61...	187	139	74·33	116	119	102·59	51	34	66·67	106	100	165	70	63	550*	1·626
62...	183	140	76·50	119	100	84·03	45	33	73·33	100	93	162	63	55	545*	1·580

* Means that the individual had a large mop of hair.

† *See* Pl. II, 5 and 6.

Appendix II. Bisharin (30 Hamedorab).

No.	H.L.	H.B.	C.I	Bi-z.	F.L.	F.I.	N.L.	N.B.	N.I.	Min. Front.	Bi-g.	Total Facial.	Naso-buccal.	Naso alv.	Circ.	Stature.
1..	187	138	73·80	136	129	94·85	57	42	73·68	101	93	–	81	70	560	1·748
2..	189	132	69·84	120	118	98·33	55	36	65·45	100	96	172	72	66	540	1·634
3..	189	137	72·49	135	103	76·30	45	36	80·00	108	101	163	62	56	550	1·705
4...	193	140	72·54	126	126	100·00	51½	33½	65·05	110	99		84	72	570	1·659
5..	191	144	75·39	136	120	88·24	48	28	58·34	100	95		75	68	567	1·674
6...	189	136	71·96	129	121	93·80	50	33	66·00	103	94	189	74	66	542	1·633
7...	187	130	69·52	121	124	102·48	46	37	80·43	110	100	199	74	65	570	1·629
8...	186	129	69·36	126	108	85·71	50	34	68·00	100	96		70	61	520	1·705
9...	196	130	66·32	128	128	100·00	55	38	69·09	105	94	205	78	68	570*	1·784
10...	186	140	75·27	125	118	94·40	43	35	81·40	106	95	198	70	61	578*	1·675
11..	185	135	72·97	118	124	105·09	51	37	72·55	103	98	196	76	65	557*	1·651
†12...	196	143	72·96	131	125	95·42	60	42	70·00	108	105	201	74	71	610*	1·733
13...	187	119	79·68	130	122	93·85	50	38	76·00	109	93	199	78	67	590*	1·626
14...	183	147	80·33	123	129	104·88	51	37	72·55	107	99	206	69	63	558	1·795
15...	187	147	78·61	119	114	95·80	48½	35½	73·20	101	99		69	62	548	1·733
16..	189	148	78·31	137	131	95·62	57	38	66·67	112	103	-	79	70	552	1·612
17...	193	146	75·65	132	125	94·70	51	43	79·63	104	100	193	75	68	553	1·784
18..	191	145	75·92	135	117	86·67	51	39	76·47	110	104	198	70	60	590	1·688
19...	191	144	75·39	129	123	95·37	50	34	68·00	111	99	191	77	69	556	1·778
†20...	198	144	72·73	132	111	84·09	48	38	79·17	107	113	202	70	67	580	1·790
21...	182	139	76·37	131	115	87·79	47	40	85·11	115	100	181	67	59	580*	1·632
22...	183	147	80·33	127	126	99·21	48	33	68·75	103	89	195	76	67	555	1·778
23...	177	147	83·05	131	115	87·79	51	41	80·39	117	100		73	61	550	1·756
24...	190	141	74·21	115	121	105·22	49	36	73·47	106	97	192	71	66	570*	1·713
25...	184	143	77·72	137	122	89·05	50	37	74·00	108	99		73	70	563	1 696
26..	187	137	73·26	132	123	93·18	50	38	76·00	99	105	-	78	70	540	1·729
27...	191	141	73·82	118	123	104·24	49	38	77·55	110	101	199	72	66	570‡	1·738
28...	193	141	73·06	121	123	101·65	51	37	72·55	110	105	185	72	63	573‡	1·621
29...	194	141	72·68	126	123	97·62	48½	38	78·35	100	108	- -	72	65	542	1·635
30...	184	144	78·26	125	113	90·40	51	41	80·39	108	100	- -	66	59	550	1·509

* Means that the individual had a large mop of hair. † *See* Pl. I, 8. ‡ *See* Pl. I, 7.

Appendix III.— Bisharin (30 Aliab).

No.	H.L.	H.B.	C.I.	Bi-z.	F.L.	F.I.	N.L.	N.B.	N.I.	Min. Front.	Bi-g.	Total Facial.	Naso-bucccal.	Naso-alv.	Circ.	Stature.
1...	173	139	80·35	132	115	87·12	55	34	61·82	106	98		80	68	523	1·616
2 ..	187	149	79·68	124	122	98·39	60	36	60·00	104	100	-	76	71	537	1·645
3...	186	148	79·57	135	128	94·82	55	33	60·00	110	105	188	78	70	550	1·656
4...	185	142	76·76	127	112	88·19	57	34	59·65	101	99	182	77	66	540	1·815
5 ..	189	141	74·60	119	111	93·28	52	38	73·08	106	96	174	71	64	555	1·746
6..	185	140	75·68	118	114	96 61	50	35	70·00	104	97	182	76	65	533	1·705
7 ..	190	140	73·69	130	125	96·15	58	35	60·35	113	96	201	76	69	561	1·653
8	190	153	80·53	129	115	89·15	52	40	76·92	110	109	189	73	62	565	1·686
9	186	141	77·42	131	115	87·79	53	37	69·81	104	96		73	65	540	1 662
10	187	146	78·08	125	127	101·60	56	38	67·86	107	103	199	84	70	552	1·732
†11...	196	144	73·47	128	118	92·19	53	42	79·25	109	102	188	77	68	580*	1·722
12.	182	142	78 02	129	123	95·35	59	35	59·32	97	101	190	78	67	558	1·645
13	186	144	77 42	127	118	92·91	50	38	76·00	106	97	196	76	69	542	1·714
†14	180	144	80·00	126	121	96·03	55	38	69·09	106	101	189	75	68	550	1·679
15...	176	138	78·41	119	106	89·08	44	38	86·36	105	94	177	67	58	533*	1·557
16	179	144	80·45	129	116	89·92	49	33	67·35	98	99	185	72	64	542	1·667
17...	184	144	78·26	116	125	107·76	60	35	58·33	100	92	--	82	70	532	1·631
18 ..	190	157	82·63	139	104	94·20	46	38	82·61	116	101	188	61	51	559	1·630
19...	180	141	78·33	120	107	89·17	42	38	90·48	99	95	178	65	53	528	1·656
20...	181	147	81·22	128	123	96·09	49	43	87·76	105	101	—	76	68	540	1·692
21...	184	150	81·52	136	112	82·35	51	36	70·59	112	103	197	71	64	588*	1·772
22...	184	160	86·96	135	118	87·41	49	35	71·43	120	100	190	74	64	575*	1·749
23..	194	147	75 78	124	123	99·19	51	39	76·47	107	100	185	73	65	585*	1·752
24...	183	140	76·50	124	108	87·10	47	38	80·85	110	95	181	67	57	540*	1·582
25...	181	146	80 66	125	111	88·80	50	35	70·00	110	94	194	70	63	580	1·710
26..	188	147	78 19	129	115	89·15	53	30	56·60	110	95	190	78	66	555	1·760
27...	188	145	77·13	114	108	94·74	44	37	84·09	108	96	186	64	55	560*	1·699
28...	180	146	81·11	126	117	92·86	43	40	93·02	106	95	-	68	60	540	1·676
29...	183	142	77·60	135	112	82·96	48	38	79·17	107	100	180	69	59	560*	1·580
30..	183	133	72·68	126	114	90·48	44	34	77·27	105	99	193	69	65	555*	1·622

* Means that the individual had a large mop of hair. † *See* Pl. I, 1 and 2. ‡ *See* Pl. I, 3 and 4.

APPENDIX IV.—AMAR AR (2).

(NOTE.—The measurements of 14 Amar Ar, spelt "Amara," will be found on pp. 696–7 of Professor C. G. Seligman's "Some Aspects of the Hamitic Problem in the Anglo-Egyptian Sudan.")

No.	H.L.	H.B.	C.I.	Bi-z.	F.L.	F.I.	N.L.	N.B.
1	190	147	77·37	140	123	87·86	54	39
2	192	145	75·52	135	112	82·96	46	33

No.	N.I.	Min. Front.	Bi-g.	Total Facial.	Naso-buccal.	Naso-alv.	Circ.	Stature.
1	72·22	107	99	—	83	71	589	1·644
2	71·74	108	95	185	63	60	568	1·644



1



2



3



4



5



6



7



8

1 AND 2.—BISHARIN (ALIAB), NO. 11.

5 AND 6.—ABABDA, NO. 34.

3 AND 4. BISHARIN (ALIAB), NO. 11.

7.—BISHARIN (HAMEDORAB), NO. 20. 8. BISHARIN (HAMEDORAB), NO. 12.



FIG. 1.—TOMB OF BISHARIN *arfij* IN WADI O SIR FIRAB.



FIG. 2.—ABABDA HUT IN WADI ABU GHUSUN.

Appendix V.—Head Measurements (Hamedorab and Aliab).

Dr. E. C. Rhodes has kindly supplied the following note on these measurements:—

The most likely population sampled to produce the measurements in Appendix II (Hamedorab) is that which has:—

H.L.		188·6	..	S.D.	.. ·856
H.B		140·8	..	S.D.	.. 1·03
Total Facial	..	192·8	..	S.D.	.. 2·54
C.I.		·747	..	S.D.	.. ·0068

and the variability of these estimates is indicated by the standard deviations.

The most likely population sampled which would produce the measurements in Appendix III (Aliab) is that which has:—

H.L.		184·7	..	S.D.	.. ·906
H.B.		144·8	..	S.D.	.. 1·00
Total Facial	..	187·6	..	S.D.	.. 1·43
C.I.		·784	..	S.D.	.. ·0054

The differences between these two populations are, in respect of H.L., H.B., and C.I., such that we cannot reasonably consider them as being for all practical purposes the same. In the case of Total Facial measurements, we might reasonably consider them the same.

[The differences are:—

H.L.		3·9, compared with		S.D.	1·25
H.B.		4·0	..	..	1·43
Total Facial	..	5·2	..	..	2·92
C.I.		·037	..	..	·0087

$$\frac{3\cdot9}{1\cdot25} > 3\cdot0\,,\quad \frac{4\cdot0}{1\cdot43} > 2\cdot8\,,\quad \frac{5\cdot2}{2\cdot92} > 2\cdot0\,,\quad \frac{\cdot037}{\cdot0087} > 4\cdot0.]$$

THE TOTEMISM OF THE ANCIENT ANDEAN PEOPLES.

By Richard E. Latcham.

Many years ago, while investigating the social organization of the Chilean Indians at the time of the Spanish Conquest, we came across unmistakable evidences that this organization was largely based upon totemism. This, to a certain extent, upset the notions we were then inclined to form on the subject, which had been largely influenced by a long personal contact with Araucanian Indians in their native surroundings, but under modern conditions, and by a study on all that had been written on the subject up to that time.

The new factor was too plainly indicated to be ignored, so we had to revise our studies and take this seriously into account. Our principal source of information naturally had to be the chronicles of the sixteenth century, and these, unfortunately, contained only meagre details relating to the social life and organization of the Indians: but with the new light thrown upon the matter by the recognition of totemism as a native institution, we were able to explain various doubtful problems, the former interpretation of which did not seem to be satisfactory.

The historical documents recently published in thirty-nine volumes, and the chronicles of all the known historians in another thirty, undertaken and carried out by the indefatigable bibliophile, Don José Toribio Medina, proportioned us an enormous amount of new material: but, after carefully revising and extracting all that was pertinent to the matter, we still found numerous gaps in our knowledge and an imperfect explanation of many things hinted at but not detailed. There existed in the National Library in Santiago a large and very valuable collection of manuscripts relating to the early times of the Spanish occupation, the greater part of which had never been utilized for modern research. We set to work to revise these, and found that there was a great deal of information that bore directly or indirectly on this question and on others related to it. Many of these documents referred to the distribution of the *encomiendas* or grants of Indians given to their followers by the Spanish Governors, and contained the names and clans of the Indians so awarded, their situation and many other interesting data that could be made use of, but that had long been forgotten or ignored. In the numerous legal documents, many claims were made to establish title-deeds to lands ceded, boundary disputes, water and grazing rights, etc., and in them the former

customs of the Indians were frequently cited in evidence supported by the testimony of witnesses, mostly natives. We also found many reports, letters, and declarations of the clergy to their superiors, speaking of the difficulties experienced by them in their work of converting the Indians to the Catholic faith. Some of them refer to the customs, beliefs and superstitions, social and religious ceremonies, etc., not mentioned elsewhere, and give Indian names and terms that are not to be found in the later "Vocabularies" (the earliest of which were published only in the seventeenth century), and explain some phases of native life not generally known. Then again there are a great number of decrees and ordinances of the governors and other persons in authority, ordering the suppression, the modification or the permitting of certain native customs, which must have existed, but which have been forgotten and have remained otherwise unrecorded.

These and others of a different tenour we revised and extracted, obtaining from them a considerable amount of information not obtainable elsewhere. We also examined a large number of old parish registers, in which were annotated the names, clans, and sometimes tribes of the Indians and also much of their family history, such as births, deaths, baptisms, marriages, etc., and sometimes certain details of religious or social ceremonies, feasts, etc., practised by the Indians within the parish.

We were also enabled, thanks to the kindness of Mr. Thomas Thayer, chief of the National Archives, to revise a large number of unpublished documents relating to Chile, existing in the Archives of Seville, of which he had lately received copies.

A close study of all this published and unpublished material, and a good general knowledge of the present customs, language, and psychology of the Indians, acquired by a residence of five years in close and intimate contact with the Araucanians, soon convinced us that most of what had been written about their social organization and religious beliefs was fundamentally erroneous, and that the real ethnology of the race was still to be set forth.

Before attempting such a task, we considered it advisable to see in what manner the ancient Chilean social and religious institutions were related with those of the surrounding nations, and decided on a revision of all the documentary evidence available, that referred to the ancient Inca empire in its total extent. To accomplish this we were obliged to put off for a period of ten or twelve years the original task we had set ourselves to attempt: but the results have more than justified our expectations.

Only in 1923 did we feel in a position to publish the first results of our investigations,[1] and in the following year we were able to complete our study

[1] *La Existencia de la Propiedad en el antiguo Imperio de los Incas*. 68 pp. Santiago, 1923.

of Araucanian ethnology.[1] Our researches also showed us that the Inca history and social and religious institutions had been even more erroneously interpreted than those of the Chilean tribes. In two recent works[2] we have tried to show what these really were, as far as we were able to form an opinion from the new data we had obtained and the application of more modern methods. Before we had gone very far in our investigations, we found that more than one of the former convictions on which the ethnology of the native tribes had been based were completely erroneous and needed a radical reconstruction. Perhaps the chief of these was the belief in the patriarchal system, supposed to be the foundation of Indian family life in these regions. We found that everywhere throughout the Andean countries, from Colombia to Chiloé, descent was reckoned in the female line, and the family name was that of the mother, and not that of the father as had been supposed. This state continued till long after the arrival of the Spaniards, and among the Araucanians of southern Chile persisted till the beginning of the nineteenth century. All through the same regions totemism was universal, and the totem was almost always inherited from the mother. The clans were, for the most part, independent and self-governing, and only in times of public danger or calamity was there any attempt at union or federation under the leadership of a military chief elected for the occasion. The clans were mostly exogamic, but endogamy was practised in some, while a few seemed to have no marriage restrictions, and contracted matrimony within or without the clan at will. Most of the Peruvian tribes were divided into phratries, but the original functions of the divisions had been forgotten at the time of the Conquest; or, at least, there is no sure record of their real primitive significance, although they were seemingly derived from the antagonism between the first settlers or autochthones and later comers, who were looked upon as intruders and as strangers. Vestiges of such a division having formerly existed among the Chilean Indians are not wanting, but these are too few and too vague to warrant us in forming an opinion as to their meaning among these tribes.

As regards the religious beliefs of the Indian tribes of the Andes zone, these have been as badly represented as their social customs. Animism, fetishism, totemism, and ancestor-worship were universal and formed the basis of their religion. The Solar Cult of the Incas, supposed to be the predominant and imperial religion, has been greatly exaggerated and erroneously interpreted. In fact, it was a closed cult, totemic in origin, confined to the Cuzco tribe, practised wherever they might be scattered throughout the empire, but from

[1] *Organizacion Social y Creencias Religiosas de los antiguos Araucanos*, 626 pp. Santiago, 1924.

[2] *Los Incas: su origen y sus ayllus* (about 250 pp.), in press. *Las Creencias Religiosas de los antiguos Peruanos* (about 500 pp.), ready for the press. These have also been written in English.

which other tribes were excluded. The latter were only required officially and nominally to recognize the Sun as the pre-eminent god, as he was the divinity of their royal lords, but without participation in his worship. Each tribe had its own tutelar being, which was the object of its devotions, till such times as idolatry was extirpated by the Spanish clergy.

The supposed communism of the Incas was another myth, which does not resist the slightest serious investigation, and has only been maintained by a constant repetition of Garcilaso's and other chroniclers' declarations on the subject. Garcilaso has done more than any other towards the perpetuating of false impressions of the social organization of the Inca empire, and his writings, examined in the light of more critical investigations, show us that he was woefully ignorant of the matter or was wilfully misleading his readers in order to glorify the race from which he, on his mother's side, had sprung.

These few points, taken from among many others, will serve to show how necessary it has become to reconstruct the whole fabric of Andean culture at the time of the Spanish Conquest. In the works that we have already published, or that are in press at the present time, we have tried to give the results of our researches in a logical form, with many and detailed quotations from the principal sources of our information, in the hope that they may serve for future studies on more critical lines. In the course of these we have found occasion to overturn many pet theories, uproot many seemingly well-founded convictions, and destroy a number of beliefs that were looked upon as axiomatic. However, the fundamental facts which we present will not allow of other interpretations; and although some of our deductions may have to be modified, any reconstruction will have to deal with the main factors—totemism and matrilineal descent.

In the present article we only wish to point out the most salient features of the totemism that existed in the Andean countries at the time of the Spanish Conquest, as far as our researches have enabled us to decipher it. This totemism offers many special points, some of which have been noticed in other countries and continents, and others that, although sometimes hinted at, have never been clearly established. A critical study of it shows us that some of the elements considered as essentials by the older school of European writers, either do not figure in, or are not essential to, Andean totemism. Other conceptions, looked upon as fundamental, are incongruous when one tries to apply them to the institution as practised by the South American Indian tribes.

Twelve or fifteen years ago, when we tried to reconcile what we were then discovering with the published works of Frazer, Lang, Thomas, Haddon, Reinach, Durkheim, Wundt, Graebner, Van Gennep, Howitt and others, we began seriously to doubt whether we were correct in our deductions and interpretation, as so many points seemed completely contradictory to what the

European specialists insisted upon as essentials of totemism. Later, the writings of Boas and Hill-Tout showed us that they, too, were experiencing the same doubts, and that American totemism seemed to be something different from that studied principally among the Australian and Melanesian tribes. Then came the publications of the French missionaries in Central Africa, especially the works of Abbé Bros, Mgr. Le Roy, and Trilles, corroborated by the work of Sir H. Johnston, on the Uganda Protectorate. In these we found a confirmation of what we had already observed among the Araucanians, and what later we were to find also among the Peruvian tribes. From then on we continued our investigations independently of any preconceived ideas, determined to follow wherever they led us, and to form conclusions only from well-certified facts. Luckily these were not wanting, once we had discovered where to look for them, and little by little we gathered details sufficient to be able to outline a more or less complete scheme of totemism as known to the former Indians of Chile, which was to aid us greatly, later on, in deciphering that of the Peruvian tribes, of which we had less documentary evidence, but which was similar in all essential points.

We will here enumerate the principal characteristics of Andean totemism as we have found it, leaving till later the facts on which they are based, as we cannot in a reduced space present all the proofs forthcoming. These characteristics are similar almost everywhere, and only occasionally do we find variations from them.

(1) The totem was seldom confounded with the ancestor of the clan or tribe. It was a separate being, having a distinct denomination and a distinct cult.

(2) The totem was generally looked upon as the ally of the ancestor of the clan and was usually called his blood-brother. A pact existed between these two beings which seems to have been sealed by an interchange of blood, either effectively or symbolically.

(3) The totem of the Andean peoples was only occasionally an animal or other living being: the most common were chosen from celestial bodies, natural phenomena or forces, geographical features and inanimate objects.

(4) Among living creatures, birds were more commonly chosen as totems than beasts, reptiles, or insects. Plants were only occasionally chosen, and on the sea-coast fishes and marine animals were the most frequent.

(5) When the totem chosen was some celestial body, natural force, or inanimate object, it was generally represented by a symbol, which was some living creature, which took the place of the totem in many of the rites and ceremonies.

(6) Sometimes the totem animal or the animal symbol was considered sacred and there was a prohibition to kill and eat it: but amongst many tribes a contrary custom prevailed, and the totem was chosen from amongst those animals and plants which served the tribe as their principal means of alimentation: such as the llama, maize, certain fish, etc. This was especially so in the coastal region.

(7) As a general rule, there were no special marks of sorrow, and no funeral rites on finding the dead body of the totem animal.

(8) Generally the totem animal or the animal symbol was represented by the whole species, but sometimes it had to have a special mark, colour, or defect.

(9) The yearly sacrifice of the totem or its symbol was usually accompanied by confession, penitence, expiatory offerings and sacrifices (often human), purification, invocations, and communion.

[Among some tribes certain of these rites were omitted, but the expiatory sacrifices and communion were constant factors.]

(10) During the ceremonial dances which accompanied all their feasts and ceremonies, the dancers dressed in the skins and feathers of the totem animal or bird or of those of the symbol.

(11) The clan took its name from the totem or from the symbol, not always directly, but often from some attribute, real or supposed, which identified it with the totem.

(12) The totemic mark or badge was used as the distinction of the clan, carved on their houses, painted on their bodies, faces, arms, shields, etc. Some Peruvian tribes carved the totem on the cradles of their children, and among the Araucanians totem poles were also used.

(13) The totem was inherited almost universally in the female line, and the eldest brother of the maternal family was usually the head of the totemic group, at least during later times.

(14) The totem, together with its human ally, the founder of the lineage, were the tutelar beings of the clan, and their duty was to protect and watch over their descendants.

(15) The basis of the totemic cult and of ancestor-worship among the Andean peoples was reciprocity for favours received or solicited on either side. There was no real worship other than this.

(16) The totem was almost invariably looked upon as the blood-brother of the founder of the clan or tribe, except where the two beings were confounded in one: and the animal species from which the totem or the symbol were derived were considered as blood-brothers of the human descendants of the founder. The latter usually called themselves the "children" of the totem, for reasons which

will later appear. Some tribes, having forgotten the origin and real significance of the totem, confounded this being with the founder of their line, and thought they were descended from the totem animal: but in many of the cases recorded by the chroniclers such ideas are only a misunderstanding on the part of the writers, and such was not really believed by the Indians.

(17) As a rule, the *clans* were exogamous, but the tribes were never so. There were divisions or phratries in the tribes, but we have not been able to discover that these were at any time exogamic. Some few clans were endogamic, but this seems most frequently to have been owing to isolation, and the difficulty in procuring women other than those of their own clan.

(18) As far as we have been able to discover, there was no sign of sex totems: nor do there seem to have been individual totems in the sense Frazer gives to the term, although all the clan totems must originally have been individual.

(19) The cult of the totem was almost inextricably wrapped up in that of the ancestor, but in the ceremonies and rites the difference between the two was fully understood.

(20) In some parts, as among the Incas, the principal national totems as the sun, thunder, moon, etc., had become deified: and, owing to this, the totemic character of most, if not all, of the religious rites was not perceived by the chroniclers who have written of Inca customs, nor by the majority of those who have studied them later, some of whom speak of the fetishes of the race but do not mention their totems.

These are the usual characteristics of totemism among the Andean tribes as found by the Spaniards at the time of the Conquest. As will be seen, in many important points they do not coincide with the so-called essentials of totemism, as established by many of the specialists in this branch of sociology, but at the same time satisfactorily explain most of the problems of the institution as found in this region.

We do not mean for one moment to say that this is the primitive form of totemism, or that in all parts of the world it must have passed through this same stage. On the contrary, our belief is that it is a relatively developed form; but, at all events, it is clearly established and more easily understood than the majority of standard types of other continents, if such have been correctly interpreted.

For instance, as a general rule, in the Andean totemism, the totem is not, and cannot be, confounded with the ancestor, and, therefore, very few tribes believed that they were descended from the totem, although they bore

the same name, and the animal species to which the totem or its symbol belonged were called blood-brothers. Many of the tribes recorded as having held such a belief did not really do so, the idea having originated in the misinterpretations of the early writers and historians. The Indians, speaking of their totems, used two expressions which were never fully understood by the Spanish historians and chroniclers. They called their totem and the members of the totem species *blood-brothers*, and they called themselves *children* of the totem, whatever it might be. Thus, the Incas called themselves *Children of the Sun*, because the sun was their totem: the Huamanchucos said that they were *Children of the Falcon*, for the same reason, and so on. But the people did not really believe that they were descended from the sun or from the falcon, from lions, tigers, serpents, rocks, trees, etc., as the chroniclers declare, or that they were generated by such beings or objects. It must be understood that the clans or tribes inherited their names from their ancestors, and that the founders of these took the names of their totem allies, and were known by such. The natives always spoke of themselves as the children of their first ancestor, whose name was sun, falcon, lion, or rock, and when they said that they were descended from the sun, lion, etc., they spoke literally and correctly, as their ancestors were suns, lions, rocks, etc. They were physiologically descended from their forefathers who bore these names, but did not confound, as the Spaniards and later writers have done, the ancestor with the totem, although both bore the same name.

The same thing happened as regards the expression *blood-brother*. The chroniclers and others, hearing them speak of the totem species by this term, supposed that they believed that they had a common descent from the totem, and this confirmed them in the conviction they had formed on hearing them call themselves children of their totem. We do not know whether some tribes may have held such a belief, but it could not have been very common, as many of those recorded as having done so had in their languages separate names for the ancestor and the totem.

Among the Araucanian-speaking tribes the totem was called *cüga* or *ngenuncan*, and the first ancestor or founder of the clan, the ally of the totem, was named *pillán*. Among the Quechuas the names were, respectively, *huauqui* and *pacarina*, and the Aymará equivalents were *auqui* and *achachila*. In the Moxo tongue they were *porape* and *achuco*, and in Chipaya, *huetilaja* and *tschaucalla*.

In all these languages the term used to express the totem means "*brother*," and the name given to the founder of the clan from whom they descended, signifies "*our grandfather*" or "*our remotest ancestor*." The totem is frequently spoken of as "*our protector*," or "*our advocate*," "*he who sustains us*," etc. The Araucanians spoke of it as *ngenuncan*, from *nuen*, owner, possessor, and

ãncan, protect or defend—he who protects or defends us. Among the Incas they used the word *yanapuc*, protector.

The Araucanian expression *cüga* referred to the totem under all its different aspects and included: (1) the *ngenuncan* or totem itself as a tutelar being; the eponymous entity that gave its name to the clan and to all the descendants of both allies: (2) this same group of descendants—the clan—human and animal: (3) the animal symbol, when the nature of the real totem made this necessary: (4) the sign, mark, or device of the clan: (5) the distinguishing family name of the clan: (6) the kinship which united the totem with its descendants, with its human ally and his descendants. When the Araucanian spoke of his *cüga*, he referred to it in its integral form, or in any one of its single aspects.

The existence of totemism among the Araucanians did not pass unperceived by many of the chroniclers, although the term was not in use at that time, and some of them give us brief details of it, although principally as a system of naming.

Pedro de Valdivia was the first to mention it. In a letter to H.M. the King of Spain in 1550, he says: "I then apportioned all the chiefs on this side of the river (Imperial) by their *levos* (clans), each one by his name, *which are like surnames, and by which the Indians recognize their subjection to their superiors.*"

In 1606, Father Valdivia wrote the following: "Besides these relationships, the Indians have another kind of kinship of surnames, which they call *cüga*, like lineages, and these are to be found in all the provinces from Concepcion south, on the coast as well as in the Cordillera, and they may all be reduced to about twenty, which are these: Antü, Amuchi, Cacten, Calquin, Cura, Diucaca, Entuco, Glliu, Gru, Gagen, Huecuhue, Yane, Yeni, Luan, Pagi, Linqu, Mugu, Qllvu, Villcún, Vüde. And there is not an Indian that has not one of these surnames, which mean sun, lion, frog, fox, etc. And they hold each other in great respect, those who are all of one surname are called *Quñelacu* (of one name)."[1]

In his "Vocabulary" he gives, under the heading *Cuga*, the following definitions:—

(*a*) The name of the lineage, Gru or Antü foxes, or suns, or rivers, etc., as amongst us there are Mendozas, Toledos, etc.

(*b*) It is also used to signify the head of a kinship group, he who is the chief and principal Indian.

(*c*) It is also taken to mean lineage (clan).

About the same time Gonzalez de Najera wrote the following: "They pride themselves on having amongst them lineages and descent by surnames,

[1] *Arte y Gramática General de la Lengua que corre en todo el Reyno de Chile*, chap. xxiii.

because there are families which name themselves suns, others lions, foxes, frogs, and other similar things, of which these are kinship groups, which help and favour each other in their dissensions and divisions, and these surnames are so appreciated that the only thing they are short of are coats-of-arms."[1] And as we shall presently see, not even these were wanting.

Father Rosales says: "Their names from time immemorial signify animals or objects accompanied by a quality or action: *Marihuan*, the huanacos, *Nahueltripay*, the tiger came forth, *Calcuñanca*, blue eaglet; this custom of applying the surnames of animals established in ancient times certain kinships and castes among the Indians, a custom which has induced the barbarous nations to believe that animals like the tiger, lion, huanaco, etc., *symbolize a good spirit which presides over a family*."[2]

Febrés tells us that "*Cuga* or *cuuqu* is a surname, a lineage, or a family, and note well that the names are composed of two words, of which one is the proper name of the lineage or *cuga*, or, as we say, surname: *Lacquen*, *leuca*, *nahuel*, *pay*, *guru*, *calquin*, etc. And although in their *coyagtunes*, assemblies, they name each other by their complete names, in their familiar conversation they are accustomed to use only the first name with a syllable or a letter of the second, i.e. *Vachalac* for *Vachalacquen*, great sea: *Millalen* for *Millaleuca*, gold of the river or river of gold: *Curiñ* or *Curiñam*, for *Curiñanca*, black eaglet, which at the beginning causes some confusion."[3]

This custom of shortening the surnames in ordinary conversation is quite common among the Andean tribes, and makes it difficult for one not well versed in the native languages and dialects to distinguish what is the real clan-name of the individual.

Havestadt says: "*Cuna*, race, lineage, stock, family, nation. Besides, it is the name which they take from birds, quadrupeds, serpents, fish, stones, or any other animals or inanimate things. In the first place they take into account the name or surname of the *cuna*, or family or race, *e.g.* if someone is named *Huequc* (llama), on considering its qualities, properties, etc., he calls one of his children *Leuhueque*, white llama: another *Curihueque*, black llama: another *Neculhueque*, running llama: another *Llanfulema*, shady wood, because the llama, especially in summer, seeks the shade of the trees. Another has for his *cuna* the name *pani* (puma) and, therefore, will call one of his sons *Vutapani*, great lion: another *Loncopani*, head of a lion: another *Hulipani*, claw of a lion: another *Huaiquipani*, a lion with horns, etc. When several names are joined together the *cuna* is generally placed last, although

[1] *Desengaño y Reparo de la Guerra del Reyno de Chile*, por Alonso Gonzalez de Najera, Col. de Historiadores de Chile, tomo xvi, p. 46.

[2] *Historia general del Reyno de Chile*, por el R. P. Diego de Rosales, vol. i, p. 166.

[3] *Arte de la lengua general del Reyno de Chile*, por P. Andrés Febrés, 1765.

not always so, as this depends on the circumstances. The names of women are frequently ridiculous, that is why they are ashamed to tell them. They even give the name of some family to the missionary fathers, which henceforth counts them among its members, and, as it were, grafted on to their line. They gave me the name of *Huaiquilafquen*. *Huaiqui*, lance, is the family name, and it was given to me because I was of great stature: *Lafquen* is sea, because as regards to them I was from over the sea."[1]

Molina, after giving similar details, adds: "These families called *cüga* or *elpa* are respected in a greater or lesser degree according to the heroes they have given to the fatherland. The origin of such names is unknown, but it is certain that it preceded the Spanish Conquest by many centuries."[2]

Falkner, speaking of the Araucanians who had emigrated to the Pampas of Northern Patagonia, says: "The Moluches or Araucanians of Chile are divided into families or clans which are named after animals, plants, and other natural objects. . . . Each clan has its presiding deity. . . . They have formed a multiplicity of these deities, each one of which, according to their beliefs, presides over a caste or particular family of Indians. Some say they are of the caste of the tiger, some of that of the lion, some of that of the huanaco, and others of the ostrich, etc."[3]

We do not think it necessary to make further quotations on this point, although the list is not nearly exhausted, to show that the Araucanians were divided into clans, took their names from some bird, animal, or natural object, which was looked upon as their special tutelary being or totem.

Studying the onomatology of the Peruvian tribes, we find the same thing applies. Garcilaso de la Vega, Cieza de León, and others, give us very numerous examples, and tell us that these beings were sometimes supposed to be the ancestors from whom they were descended, and sometimes the deity or tutelary being that watched over and protected them.

Amongst the Ordinances of the Viceroy Toledo is one which reads: "The Indians should not further use names taken from the moon, birds, animals, serpents, or rivers, as they have hitherto been accustomed to do."

On studying the Araucanian totemism to discover the relative recurrence of the clan or totem names, we made a classification of more than 3,000 surnames mentioned in the documents of the sixteenth century. We give below the principal of these in the order of their frequency: *Huenu*, sky; *antu*, sun; *pillán*, ancestral spirit: *cura*, stone: *lemu*, forest or wood: *lecán*, pebble; *lafquen*, sea: *milla*, gold: *taru*, bustard; *ñamcu*, eagle: *leufu*, river; *co*, water: *huala*, wild duck; *chenque*, ostrich; *nahuel*, tiger or jaguar; *pangue*, a plant:

[1] Chilidugú.

[2] *Compendio de Historia Civil.*

[3] *A description of Patagonia and the adjoining parts*, by Thomas Falkner.

llanca, head: *manque*, condor: *cilu*, snake: *márvida*, mountain: *voro*, bone: *namun*, foot: *pani*, puma, etc. Only in the central provinces were these surpassed by *lonco*, head.

As will be seen, birds only occupy a secondary place, while those of quadrupeds are still less common. In numerical and geographical distribution *sky* and *sun* are far away the most important totems. This fact is equally evident among the Peruvian Indians. The chief totemic names to be found among these tribes, at least in the highlands of Peru and Bolivia, were those derived from geographical features and natural objects or phenomena, such as: *Cala*, stone, used in many combinations: *Ccollá*, a certain tree: *Cantut*, a flower: *Chilca*, a plant: *Colo*, hill; *Coto*, hillock; *Ichu*, grass: *Huanca*, a boundary stone: *Quispi*, quartz, crystal: *Quisuar*, a tree: *Rumi*, a stone: *Mayu*, river: *Huaylla*, swamp; *Cuychi*, rainbow: *Coyllur*, star: *Orcco*, mountain; *Caca*, rock: *Aco*, sand; *Alca*, a snowy peak: *Sayri*, tobacco: *Cocha*, lake, etc.

Among the animal names we find: *Amaru*, serpent; *anca*, eagle: *allco*, dog: *anta*, tapir: *alcamari*, large falcon; *atoc*, fox; *capa*, hawk: *ccenti*, small humming-bird; *cullcu*, dove; *cuspi*, fly; *cuntur*, condor: *chanquiri*, crow: *chayna*, song-bird: *checollo*, song-bird; *chima*, hawk; *chuy*, quail: *chihua*, thrush: *chucu*, any piebald animal; *hualpa*, a game-bird: *huaman*, falcon: *huanacu*, huanaco; *huachua*, a species of duck; *llama*: *paca*, eagle: *parihuana*, flamingo: *puma*: *pilco*, large humming-bird; *rachac*, toad: *taruco*, large deer: *tinti*, grasshopper: *ucumari*, bear: *uturunca*, jaguar: *yutu*, partridge, etc.

Many of these names are common to both the Quechua and Aymará tongues: others are duplicated in this latter language.[1]

Revising the lists, we find in them nearly all the living beings and objects from which, according to the chroniclers, the Indians supposed they descended, or which they regarded as tutelary beings.

Sarmiento, Acosta, Ondegardo and others speak of the totem, calling it by its proper name of *huauqui*, but did not fully understand its significance. The first-named says that at the time of Manco Capac "the Incas originated these idols called *huauquis*. The *huauqui* was an idol or demon elected by each Inca to be his companion and oracle, and which answered his questions." Elsewhere, he says Manco Capac "took with him a bird like a falcon called *indi* (*inti*, sun), which they all worshipped and feared as sacred (*tabu*), or as some say, enchanted, for they thought that, owing to its power, Manco Capac was lord over them, and obliged them to follow him. This was what Manco Capac

[1] The names in these lists figure either in the chronicles or in documents relating to the conquest and pacification of the Inca empire, and in the old parish registers. *Ayllus*, or clans, have been found which correspond to most of them.

led them to believe, and it was carried on men's shoulders and always kept in a box-like hamper. He left it as a heritage to his son, and the monarchs had it in their possession till the time of Inca Yupanqui."[1]

We hear of this *huauqui* again in the reign of Mayta Capac, supposed to be a direct descendant of Manco Capac, which he probably was, if we are to judge by the surname. Sarmiento says: "They relate of him that he dared to open the hamper containing the bird *indi*. This bird, brought from Tampu Tocco, had been inherited by his (Manco Capac's) descendants, the predecessors of Mayta Capac, who had always kept it shut up in a hamper or grass box so greatly was it feared by them. But Mayta Capac was bolder than any of them. Desirous of seeing what his predecessors had guarded so carefully, he opened the hamper, saw the bird *indi*, and had some conversation with it. They say that it gave him oracles, and that after the interview with the bird he was wiser and knew better what he ought to do and what would happen."[2]

Sarmiento treats superficially of the *huauqui* of the other Incas and mentions the names of some, but gives a brief description of only two of them, that of Sinchi Roca, and that of Inca Yupanqui, both of which represented a serpent, and the name of that of Viracocha also signifies serpent. The serpent, symbol of the thunder, was the totem of the Tarpuntay Ayllu or clan, and it seems very probable, for this and reasons which we have given in other places, that all these monarchs belonged to this or derived clans.

The sun, *inti*, was the tribal totem of all the true Inca ayllus, each of which, however, had its own clan totem, generally a symbol of the sun.

All through the Andean region the sun was symbolized by birds of prey of soaring habits and powerful flight, as the condor, eagle falcon, hawk, and bustard.

The Colla legends make Manco Capac proceed from the Titicaca region, thus giving him a Colla or Aymará origin, and the oldest of the Inca traditions corroborate this, although afterwards the official account makes him originate

[1] *Historia Indica*, chap. xii (Markham's translation).

[2] *Ibid.*, chap. xvii (Markham's translation). If we examine these descriptions of Sarmiento, we find that the details he gives us of the *Huauqui* are those which correspond to the totem. It was elected by its first owner, and inherited by his descendants. It was venerated by the whole clan, and was held *tabu* by them. It represented a living animal, in this case a falcon, and was in charge of the head of the line. It was supposed to be endowed with superhuman powers and was looked upon as a protector and tutelary being. The other rulers before Mayta Capac did not dare to open the hamper as they belonged to other clans, as we shall presently see, and to them it was *tabu*. Mayta Capac, on the other hand, was a direct descendant of Manco Capac and bore the clan-name. To him, as head of the line, the *tabu* did not hold, and he could both see and consult with the family oracle. This figure of the falcon, the totem of the Capac clan or tribe, was kept in the *Intihuasi*, House of the Sun, together with the stone statue of Manco Capac, till the time of Inca Yupanqui, and they were both placed in the Sun Temple by this monarch, when he deified the mummies of all his predecessors.

in Paccaric Tampu, but this appears to have been an innovation of Inca Yupanqui, who did not wish to recognize kinship with the Colla tribes.

The meaning of the name Manco Capac has never been satisfactorily explained or interpreted, for, finding him the founder of the Inca line, it has always been supposed that it should be translated from the Quechua language; and neither word was to be found therein, for *Capac* in its modern sense of rich, powerful, was also an invention of Inca Yupanqui, and could not refer to the surnames of former monarchs, and still less to that of Manco Capac, the legendary founder of the race, who was of Colla origin. In Aymará the word did not exist, till later it was adopted from the Quechua with its new meaning. *Manco* was a Spanish corruption of *mallcu*, which means a chief of a clan, an owner of vassals, and this explanation is to-day accepted by all linguists who have studied the Peruvian native languages. If the first name was of Colla or Aymará extraction, it is only natural that the second should have the same origin. This problem has been cleared up by the recognition of totemism as a social factor, on which the naming was dependent. *Capac* appears as a Quechua rendering of *Capa*, the Aymará name for a certain species of hawk or kestrel. This bird was one of the symbols of the sun (*inti*). *Capa* was the totem of the Inca ayllu that founded Cuzco, or, rather, was the first to settle there, and developed into the *Capa* tribe, which Garcilaso calls the *Capac* tribe, supposed to comprise all the clans descended from Manco Capac, whatever their individual totems might have been. This also explains the reference of Sarmiento, that the first Incas took with them to Cuzco a bird like a falcon called *indi* (or *inti*, which means "sun"). This was not the name of the bird, but as it was a symbol of the sun it is excusable.

But the curious part of the affair is that none of the ayllus or clans, supposed to be Inca, bore this name on their arrival at Cuzco or its neighbourhood, although one of them took the bird like a falcon with them as their totem. How are we to explain this? The difficulty is removed when we remember that when the Incas arrived at Cuzco many centuries after they left the Titicaca region, they spoke Quechua, although their original tongue must have been Aymará, and we learn from Garcilaso that their chiefs and principal people still spoke it, or at least were bilinguists. During their long sojourn in the Paccaric Tampu district they must have changed their language, probably owing to intermixture with the Quechua tribes of the vicinity.

If, remembering this, we turn to the Quechua tongue, we find that the hawk, *capa*, is in this language called *chima*. All the chroniclers who mention the Inca ayllus speak of the *Chima Panaca* (the sisterhood of the hawk) as the clan descended from Manco Capac. Then, again, Sarmiento informs us that when the other Inca ayllus arrived at the place where Cuzco was founded, a

clan named *Colum Chima* was already established there, and its members claimed kinship with the new arrivals, saying that they were of the same origin, and also recognized Manco Cápac as their first ancestor. The totem of this clan was the hawk, *chima*, and it was undoubtedly to it that the tradition referred when it spoke of the bird *indi*. So we see that the recognition of the totemism of these tribes resolves the whole problem in a simple and logical manner.[1]

Another thing that it clearly shows us is that all the ayllus or clans included by Inca Yupanqui as of Inca descent, in his reconstruction of the nation, were not of the same tribe or origin. He himself, of the Tarpuntay ayllu, was of the Chuqui Illa or Thunder tribe, the totem of which was the double-headed serpent, a symbol of the thunder among all the Andean peoples. This tribe was composed of several clans, each of which under some special form and name held the serpent as totem. Another group, distinguished by the totem and name of *Mayta*, included clans denominated Copali-Mayta, Apu-Mayta, Usca-Mayta, Cunti-Mayta, Rimachi-Mayta, Quispi-Mayta, Copca-Mayta and others. We cannot tell what this totem really was nor what it represented, for *Mayta* means an earthenware image and is modified by the accompanying substantive. But in the names given above these are all figurative and not really nominative. Others of the tribes or ayllus incorporated into the Inca nation by Inca Yupanqui were of Colla extraction, and still spoke Aymará at the time of the Spanish Conquest. Such were the Maras Cuycusa, Sutic, Masca, and Uru, all of which had their own special totems. This is why, when Inca Yupanqui deified his own clan totem, the thunder, the tribal totem, the sun, he was obliged to give satisfaction to the Colla tribes by also deifying their ancestral *pacarina* Viracocha, the most venerated of all by the mountaineers, as he was looked upon as their creator.

As we have shown, neither the Incas, the Collas, nor the Araucanians thought they were descended from their totems. Each tribe had its founder or progenitor. The totem was the tutelary being with whom this founder had formed an alliance or pact, and both personages were well known and distinguished by all their members. Thus, the true Inca tribes recognized the sun, represented by its symbol the hawk, as their totem: while Manco Capa was the ancestor from whom all descended. The Humanchucos, whose totem was the falcon, were descended from Huamansiri, son of Ataguju their creator god, etc. Among the Araucanians the *pillán*, or first ancestor, always took the name of the *ngenüncan* or totem, but the two identities were never forgotten.

[1] We have already treated of this more extensively in a work now in the press, entitled, *The Incas: their origin and their ayllus*; and in a shorter article, "¿Quien era Manco Capac?" already published in the *Revista Chilena de Historia y Geografía*, Santiago, 1926.

Another peculiar phase of Andean totemism was that frequently there was no *tabu* as regards the killing and eating of the totem animal or plant, although it existed in some cases. In others, such an animal, bird, or plant seemed to be chosen because it furnished them with one of the principal elements of their nourishment. There are historical notices of this custom, as, for instance, the following declarations of Garcilaso, who says, speaking of the Quitus: "Their gods were their ancestors, and which they were contented with were deer and large trees, *which gave them wood and flesh for their sustenance.*" Again: "The Indians of Tumbes adored lions and tigers as did also the islanders of Puna, without counting the sea, a god common to all the Indians of the coast: *and the fishes that they killed in greatest abundance for food.*" He repeats the same thing regarding the Indians of Manta: "They adored the sea, *and the fishes they killed in greatest abundance for food.*"

The Papamarcas held the *potato* to be their totem; one of the Lucana tribes the *maize*: many of the Colla tribes the *llama* and the *yutus*, the partridge, which existed in great abundance in their territory, and was greatly prized by them as an article of food.

Among the coast tribes of Southern Chile the totem was often the fish or shell-fish which served as the principal element of their daily diet. In Carelmapu, the *Yene* clan or tribe feasted on the flesh of occasional whales thrown up on the beach, and from these they derived their totem and name. Throughout the whole Araucanian region there were very few *tabus* attached to the killing or eating of the animal totem, and we know of none whatever referring to plants adopted as totems. As a matter of fact, many of the Andean peoples seem to have voluntarily chosen as totem that animal or plant, within their normal mode of life, which tended most towards their common welfare, or that which inspired them with the greatest dread or respect. Touching this aspect of totemism, Zarate says: "Besides their general gods, each one has his own special one: *the fishermen figures of sharks, the hunters according to what they chase, and so on with the rest.*"

We find that the totems of the agricultural tribes, both in Chile and Peru, were generally the sky, the astral bodies, the natural phenomena, water in some form that would serve for irrigation, or some one or other of the food plants. The more savage races of the interior, who lived principally by hunting, nearly always had animal totems, and the fisher tribes of the coast derived their totems from the fishes or marine animals.

All the celestial or natural phenomena totems had their animal symbols, which were substituted for them in the rites and sacrifices. The symbols of the sun were, as we have already said, birds of soaring habits and powerful flight: but, besides these the ritualistic symbol was the sacred or pure white llama, the national totem of the Colla nation. In some parts the puma or lion was also considered to be a symbol of the sun. The thunder was symbolized

by serpents and snakes; the rainbow, by humming-birds; rain and water, by frogs; the earth, by maize; while the symbol utilized for most inanimate objects was the *cuy* or guinea-pig, bred in incredible numbers by the natives, but, as far as we have been able to discover, never figured itself as a totem.

However, among some tribes the totem animals were considered sacred, that is *tabu*, and were not killed. This was true everywhere as regards the symbols of the sun, and the respect and consideration for them is still kept up, although totemism has long since disappeared, and the condor, eagle, falcon, hawk, humming-bird, puma, jaguar, and snake, and some others, are never killed or molested in any way by the Indians. This is probably owing to their being useless for food; and in some cases may have been only considered *tabu*, after the deification of the sun, thunder, rainbow, etc., by the royal Incas and the expansion of their empire.

Another interesting feature of totemism among some tribes, especially the Araucanians, was that frequently the totem was not represented by the whole animal species to which it belonged, but by particular members of it, specialized by a colour, a defect, or some other peculiarity, such as the white llamas of the Collas, a tailless fox, a one-eyed puma, a speckled stone, maize with grains of different colours, etc., and the totem-brothers were only those that possessed these distinctive traits.

All the tribes and clans practised periodical rites, which generally included expiation, sacrifice, and communion. The details of these ceremonies varied very considerably from one district to another, and reached their greatest development amongst the Incas of Cuzco, where they included public confession, penitence, expiation, accompanied by ablutions and the sacrifice of human blood, the driving out of evil spirits, and last of all communion, in which figured the participation of the whole tribe, men, women, and children, in the blood and flesh of the totem-animal. When the cult became deistic and the totems were elevated to the rank of divinities, all these totemic rites were incorporated into the new religion, under the name of *citua*. Cristobal Molina, in his *Fables and Rites of the Incas*, gives a good description of these ceremonies and of the invocations used at the occasion.

In the whole of western South America, no totemic celebration was complete without the customary ritualistic dances. These were frequently taken charge of by one of the many esoteric societies common to all the tribes, and which still survive right through the region, although their origin and meaning are everywhere forgotten. Bandelier describes several of these as still performed by the Bolivian Indians,[1] and elsewhere we have given an account of some of those we have witnessed among the Araucanians[2] and the

[1] *The Islands of Titicaca and Koati*, by Adolph F. Bandelier. New York, 1910.

[2] *Organizacion Social*, etc., *op. cit.*

Chilean peasantry.[1] To perform these dances, the Indians usually dressed in the skins of the totemic animals or birds, or adorned themselves with the feathers of the latter, and imitated as nearly as possible the movements and noises made by them.

Several of the chroniclers call attention to these dances. Molina and Cieza de León often mention them. Garcilaso says: "It should be known that all the provinces of Peru have each one a different kind of dance, by which each nation is known, as also by the head-dresses they wear. And these dances are constant and never changed for others."[2]

Lorente tells us that "The principal Chanca chiefs considered themselves 'children of the lion,' and that in memory of their origin. In all their principal feasts they used to adorn themselves with the skins of these beasts, dressing in the style of Hercules."[3]

Archæology shows us that these dances, and therefore totemism, from which they were derived, were very ancient. On many of the old vases and textiles from the Proto-Nazca, Proto-Chimu, and other pre-Incaic cultures, we see the designs of human beings dressed in the skins of animals with the heads and gaping jaws. In the coast region they are also painted as frescoes in some of the ancient ruins, and represent men disguised as monkeys, lions, tigers, cats, birds, parrots, fish, and crustaceans.

Means, referring to the Chimu pottery, says: "A rich life of ceremonies unfolds itself in these designs. We see their dances with symbolic and, perhaps, totemic masks and divers rites of their religion, such as those destined to celebrate the puberty of the adolescents."[4]

Some of the southern Araucanians used totem poles, planted at the end of their huts. Those found in a village near Imperial greatly called the attention of the first Spaniards that reached that district, as they fancied that they represented the double-headed eagle of the Austrian dynasty of Charles V, and most of the earlier chroniclers mention them. Gongora de Marmolejo says, speaking of the foundation of Imperial, "and they gave it that name because, in the houses of the Indians, there were tall poles which reached from the ground up to higher than the houses by an arm's length and more, and at the top of each one a double-headed eagle."[5] Mariño de Lovera says they were like the chimneys at the end of the Spanish houses.

They also placed similar posts over the graves of their principal chiefs, a custom which remained long afterwards, when totemism had disappeared.

[1] *La Fiesta de Andacollo*. Santiago, 1906.

[2] *Royal Commentaries*, Bk. ix, chap. 1.

[3] *Historia Antigua del Perú*, p. 81. Lima, 1860.

[4] *La Civilización Precolombiana de los Andes*, by Philip A. Means. Quito, 1919.

[5] *Historia de Chile desde su descubrimiento hasta* 1585, por Alonso Gongora de Marmolejo, Col. de Historiadores de Chile, tomo II.

Avendaño says of the Peruvian tribes: "On their cradles in which their children are brought up they paint or carve the idols of their special devotion, whom they expect to take charge of the health and growth of their offspring, whom they dedicate to these idols, and solicit the same thing of them."[1]

Arriaga tells us the same thing. He says: "The cradles of these peoples are in truth *Huacas*." Then he goes on to describe them, saying that they are made like a cane framework, with two wooden poles, both of which terminate in a carved head to which the names of their household gods are given. "They had special carvers for these, and, when one is to be made, the relations meet together with the craftsman, well provided with *chicha* for the day. They all fast from salt and pepper, but make up for it by much drinking. The master-carver sprinkles a little *chicha* on each stick which he uses, and converses with the cradle, calling it by the name of the god, beseeching it to look after the child that will sleep in it, not to let it cry when its mother is busy. And as the work continues so does the drinking."[2]

These cradle rods have occasionally been found in the graves, but the two heads carved on them are not alike, and one frequently represents some animal. There is no doubt that one represents the ancestor of the clan and the other the totem, the two tutelar beings of the clan, family, and kin. These dual figures are often to be met with on other domestic wooden objects, but many explanations of them have been attempted. We have, however, many reasons for believing them to represent the beings we have mentioned.

The cult of the totem was not well understood by the earlier chroniclers, and we find that they group together as *conopas* all the so-called household gods of the Indians. It is true that the Indians themselves used this generic term, but they distinguished several categories which they did not confound one with the other as most of the Spaniards did. The *conopa*[3] were all represented by some material image or object.

In some dwellings, especially in those of the chiefs, the *conopas* were numerous. They included the image, or sometimes the mummy, of the first ancestor of the community, that of the totem of the clan, the communal fetish, and the personal fetishes of all the adults that dwelt under that roof. Often the chief was polygamic, and the images of the other clan totems of his wives and their personal fetishes were also present.

[1] *Sermones de Nuestra Santa Fé Católica en lengua castellana y la general del Inca.* Lima, 1648.

[2] *Extirpación de la ydolatria en el Perú*, by Padre Pablo Joseph Arriaga. Lima, 1648.

[3] Called *conopas* on the coast and *chanca* in the highlands.

All these, and some that were left in the fields and canals of the community, were collectively called *conopas*, *lares penates*, or household gods, by the early writers without, as a general rule, any discrimination being made between them. Some of the old writers, however, noticed this difference, and give us their versions of the Indians' belief towards them. For instance, Avendaño divides them into four classes, which we may interpret as being the totems, the ancestors, the communal fetishes, and the personal fetishes. Arriaga also classifies them, and, speaking of those we refer to as totems, says that they were always inherited from father to son: "and it is a certain fact, verified in all the townships of this visitation, that among brothers the eldest always keeps the *conopa* of his fathers, and he has to give an account of it, and the other brothers arrange with him, and the first-born always has in his charge all the dresses used for the feasts of the *Huacas*, and these are never divided up among the brothers, but are considered as belonging to the divine (?) cult. . . . They inherited them from their fathers, as did these before them from theirs, and never left them behind, looking upon them as the most precious thing that their fathers had left them. . . . They give the same worship to all the *conopas*, of whatever class they may be, as they give to their *Huacas*, only that paid to the latter is public, common to the whole province, town, or ayllu, according to the *Huaca*, while that of the *conopas* is secret and confined to those of the household."[1]

In another place, referring to the totem, he says, "When a woman is ill of child-birth, she frequently calls in the shaman, for him to make a sacrifice to her own personal *conopa* (totem), and this he places over her breasts, and she keeps it there that she may have a good delivery.[2]

Sacrifices were also made to the totem on different occasions during the life of the children: as, for instance, when the child was a few days old and it was officially recognized by the elders of the clan as a new member of their kin; when it cut its first tooth, and its first name was given to it; at the time its hair was cut for the first time, generally when it was about four or five; and again when the puberty rites were performed, and it was admitted to the clan and allowed to bear the clan-name.[3]

In the smaller ayllus or clans all these and other totemic rites were performed by the chief of the clan: but in the case of tribal totems or those of larger and more important clans, there were frequently specially appointed priests or shamans who took charge of all the public ceremonies, and they were often called upon to officiate also at private family rites.

[1] *Extirpación*, chap. ii. p. 15.

[2] *Extirpación*, etc., chap. vi. p. 32.

[3] We have treated fully of these ceremonies in other works, both among the Araucanians and Peruvians.

Several of the writers who speak of these social ceremonies tell us that the names given to the youth or maiden at the time of the initiation ceremonies were those of the family *huaca* or totem, which was, as we have seen, that of the family and clan. These names were nearly always those of their mothers' clans, as matrilineal descent was the rule.

Antonio Herrera, Fernandez de Pulgar and other chroniclers tell us that among the Indians of Chile, "inheritance" was through the mothers, and when they (the women) marry, the husband governs in his wife's right. Documents of the period, and especially those referring to the establishment of title-deeds, speak of many chieftainesses who ruled in their own right, and of many others whose husbands ruled in their wife's name. The first Spaniards usually married these heiresses, to gain possession of their lands.

In Peru the same thing happened, and the wife, on the death of her husband, returned to her own clan, taking with her the children she had borne, who belonged to their mother's ayllu and inherited her surname and totem. One of the Ordinances of Viceroy Toledo was titled: "That the children follow and recognize their father's ayllu and not that of their mother." He dictated this ordinance on account of the custom just spoken of, and ordered that it should be changed, the mother being at liberty to return to her own clan if its chiefs demanded it, but that the children should be looked upon as belonging to their father's clan and remain with it, the mother also remaining till the youngest of her children reached eight years of age, that her want should not be so much felt by them.[1]

Bandelier, commenting upon this ordinance, says: "It proves that marriage was exogamous, and also that succession in the male line was introduced by Spanish legislation at the end of the sixteenth century. Whenever a conquering people by laws or decrees explicitly sanctions or abrogates customs of the conquered, such sanction or abrogation is the best evidence of the existence of such customs when the change was ordained."[2] Speaking of the Aymará, he says: "It seems certain that marriage originally was exogamous with descent in the female line."[3]

Cieza de León, who, if somewhat credulous, is still one of the most reliable of the chroniclers, took special care to note the system of inheritance in use among the peoples he met with in his travels. From what he tells us, we find that from Panama south the greater part of, if not all, the natives through whose territories he passed recognized matrilineal descent. This was the case in Uraba, Antiocha, Ancerma, Arma, Pozo, Quimbaya, Cali in Colombia; among the Tacunga, Quitus, Puruhaes, Cañaris, and the natives of Puerto Viejo in Equador;

[1] *Ordenanzas del Perú*, Bk. ii, title ix, p. 144.
[2] *The Islands of Titicaca*, etc., p. 146, note 75.
[3] *Idem*, p. 84.

in Cajamarca in Peru: and, he adds: "Farther on I will relate why the greater part of these provinces, the nephews, sons of the sisters and not of the brothers, inherit, as I hear it from many of the natives of them; which is the cause that *the lordships and chieftainships are inherited in the female line and not in the masculine.*"[1]

The reason he gives later on is ingenuous, but may possibly contain the real origin of their matrilineal descent, or at least was so believed by the Indians. In a nutshell it is this: "No man knows to a certainty which are the children he has procreated; but every woman knows that the children she conceives are her own sons and daughters." He gives this as the reason why the royal Incas married their sisters, and says: "And it was ordained by them that he who became king should take his sister to wife, being the legitimate daughter of his father and mother, in order that the succession might by that means be confirmed in the royal house. It appeared to them that by this means, *even if such a woman, being the sister of the king, should not be chaste and should have intercourse with another man, the son would still be hers, and not the son of a strange woman. They also considered that if the Inca married a strange woman, she might also conceive in adultery in such a way that it not being known the child would be received as a natural-born son of the lord.*"[2]

The real reason for the Inca marrying his sister, however, was not that, but an attempt to establish a dynasty in his own name, bearing his own totem, which could only be brought about by his marrying a sister or other member of his own kinship group. All the women of this group, of the same generation, were called sisters, although their mothers might be different. All these women bore the same family name and inherited the same totem as the Inca himself.

But marriage with sisters or with women of the same clan was not exclusive to the Inca monarchs. Other chieftains had evidently experienced the same desires to establish the rule in their own names, and had tried to resolve the question in the same way. Cieza de León informs us that in the island of Puna, the chiefs slept with their own sisters. In Uraba, Carrapa, Ancerma, Quimbaya, Cali, and other places, he says that the chiefs "married their nieces, and some of them even their own sisters."

So it is seen that while, as a general rule, exogamy prevailed, endogamy was not unknown, although perhaps in no part exclusively practised or enforced. Cieza speaks of another custom, which shows us that among some tribes incest was not looked upon with such invincible horror as some writers have noticed in other countries. Speaking of the little value set on virginity among single women, he says that in some tribes, when the girl about to be married was still

[1] *Cronica*, part i, p. 371.
[2] *Idem*, part ii, chap. x.

a virgin, "the nearest kin and friends had intercourse with the virgin, as only in that condition could she be married and would her husband receive her."[1]

We fancy, however, that the old chronicler's remark in this case is only partially correct, and that the mistake is in the different way of looking on what constituted kinship. Sexual unions with the father or father's kin were not considered incestuous by the Indians, who counted consanguinity only on the mother's side. Therefore, where the custom noted by Cieza took place, it was probably with paternal relations and not with the real blood-kin, as the natives conceived it. Naturally, such relations would appear highly incestuous to a European, but they did not break the exogamic laws as regards members of the same clan as the father's relations, and even the brothers, born of other wives of the father, could not be of the same clan as the children of a particular wife. This is what took place in those so-called incestuous unions spoken of by all the Spanish chroniclers, but many of them were not so from an Indian standpoint. As the only blood-kinship recognized was through descent on the mother's side, the father was not a blood-relation, and could have sexual intercourse with his daughters without breaking the exogamic *tabu*. In polygamic families the same thing occurred in regard to the brothers who were sons of other wives. These being of other clans and descent were not blood-kin. Such unions, although highly censured and generally considered opprobrious, were frequent during their feasts, which always terminated in drunken bouts, but were not considered incestuous.

Sarmiento also shows us that descent was reckoned in the female line. Speaking of what he calls the illegitimacy (from the Spanish point of view) of the claims of Inca Manco and Inca Paullu to the succession of Atahualpa, he opposes it, "*because their descent was on their mother's side, which is what these people look at in the question of birth.*"

This custom was so rooted, that the only means that Inca Yupanqui could think of to form a dynasty in his own name, was to introduce the custom of the heir marrying his sister, so that their children should bear the family name, it being that of both brother and sister.

All through the Andean region, and in every tribe of which there are sufficient notices to form an opinion, the family name and totem were inherited from the mother's side, even among those more advanced nations where the father had already established himself as the head of the paternal family, as regards its internal administration.

The proof of matrilineal descent being prevalent among the Incas themselves is to be found in the name given to the royal ayllus, supposed to be formed from the descendants of each Inca. These were called *panaca*, which

[1] *Cronica*, part i, chap. xlix.

means "descended from sisters," from *pana*, sister of the father; *panay*, sisterhood or the group of sisters. The equivalent terms used by the Aymará tribes where the sister was called *colla*, was *collaca*, the name given to the clan or ayllu. The name of the nation—*Colla*—was never used by the natives, but was a name given to it by the Spaniards, owing to the mother's clan system found amongst them.

These customs explain why in many cases so many household gods were to be found under one roof. Polygamy was the rule among all the chiefs and principal men. The different wives, generally of distinct ayllus, had each one her own totem, and usually had some image or figure that represented it. Then, again, each had her own private fetish, and all the children on arriving at the age of puberty, took their own fetishes also. The number increased with each new wife or concubine.

We will not discuss the question of ultimate priority of maternal or paternal descent, but content ourselves with showing that in western South America, on the arrival of the Spaniards, and for long afterwards, matrilineal descent was practically universal, even among the royal Incas themselves, in spite of all the different attempts to establish descent in the father's line.

The real difficulty in the way was ancestor-worship combined with totemism: these were inherited, and could not be changed. A person's religion may be changed, but how can you change his ancestors? It was attempted by the Spanish legislators, but only three centuries later, when many of the old customs had become forgotten or obliterated by long contact with the conquering race, and the republican governments refused to recognize female descent as a sufficient title to the ownership of lands, did the change really take place.

In Peru, Bolivia, and the north of Chile, we find the tribes, at the time of the Conquest divided into two sections or phratries, called generally by the Quechua terms of *Hurin-saya* and *Hanan-saya*, or by the Aymarás, *Ma-saya* and *Aran-saya*. These expressions mean the "lower" and the "upper" parties. Each division was composed of several clans.

The chroniclers are not agreed as to what was the real significance of these divisions, and many absurd theories have been advanced. At the time of the Conquest they were not exogamous, although the clans of which they were composed were so. Their primitive meaning seems to have been forgotten, at least amongst the Incas, although in the outlying districts there were indications of their probable origin. The Aymarás, besides the terms *Ma-saya* and *Aran-saya*, corruptions or adaptations of the Quechua forms, had their own native denominations for the same divisions, which enable us to obtain an inkling of their real meanings and functions. These archaic names were *Huari* and *Llacahuaz*. The *Huaris*, called also *Llactayoc*, correspond to the *Murin-*

sayas, and referred to the original settlers in a locality, while the *Llacahuaz* or *Llacuaz* were later comers, who were looked upon as strangers and intruders. They were the *Hanan-sayas*.

But the terms *Hurin-saya* and *Hanan-saya* had also taken a geographical meaning that has usually puzzled the commentators, but the explanation is simple. The original settlers in a locality generally took up their abode at the mouth of the valleys, where there were more cultivable lands, where these were more level and more easily irrigated. Later comers went farther up the valley to find vacant lands, and became, as regards the first settlers, the upper party, while those situated at the mouth were the lower party. These latter were also the *Huaris*, or original settlers, the others *Llacuaces*, or intruders, or in Quechua, *Hurin-sayas* and *Hanan-sayas*, respectively. This division was found throughout the empire, in the towns as well as in the country. In Cuzco it was called *Hurin-Cuzco* and *Hanan-Cuzco*, lower and upper Cuzco. The original settlers, who constructed their dwellings at the foot of the hill, were called *Hurin-Cuzcos*, while those that built on the hills during and after the time of Inca Roca were called *Hanan-Cuzcos*, a division to which all the later Incas belonged, and which for this reason took a more important place than the older aristocracy, the *Hurin-Cuzcos*.

Spanish legislators, interpreting the real meaning of the terms, called the *Hurin-sayas* "originals," and the *Hanan-sayas* "aggregates" or "outsiders." A report, written in the eighteenth century, says: "*Originals* are those who had their first origin in the ayllu to which they at present belong, and consider themselves natives and ancient in the place. *Ayllu* is what we call a district group. For this reason they consider themselves superior and of better class than the *yanaconas* and *Uros*, so that among them an *original* is more to be recommended than an *outsider*, especially in holding office, in obtaining more land, and of receiving a better place. . . . *Strangers* (*aggregates*) are those that did not originate in that place, and are not to be confounded with the nobility of the originals, and they appear intruding on the lands of the community (of which just sufficient for their subsistence are allotted to them), and pay tribute, etc., as if to help the originals."[1]

This same description was given by Father Ramos, two centuries earlier, regarding *Hurin-saya* and *Hanan-saya*.[2]

Juan Matienzo, speaking of the same division among the Incas, says that each party had its chief. In all the assemblies and these feasts, these divisions each had their own places and kept rigorously separate. "Those of *anansaya* seat themselves on the right hand, and those of *urinsaya* on the

[1] *Report of the subdelegate of Omasuyos, Marqués de la Plata, to the Intendant of La Paz*, vol. iii, Academia de Historia de Madrid.

[2] *Historia de Copacabana*, por Fray Alonso Ramos Gavilan. Lima, 1621.

left, on low seats called *duos. Each one of these chiefs rule eight ayllus*, and each one has its chief, which sit in their order, those of *urinsaya* behind their chief and those of *anansaya* on the right. This chief of *anansaya* is the chief over all, and holds the lordship over those of *urinsaya*. He calls the assemblies and governs in general, but not individually: he collects the taxes and pays them, and collects from the chief of *urinsaya* what he has collected from his ayllus."[1]

In this description, Matienzo refers to the form of the institution, as organized by the later Indians, and which served them also as an expeditious means of collecting the tribute exacted from the tribes. The Spaniards took advantage of the same organization for taxation and legislative administration. However, we do not know whether these divisions were ever totemic more than in a general way, each having a group of totems of different origin; nor do we know if they were exogamic, although we suspect that as divisions they were never so. On the contrary, it is almost certain that, originally, there would be no marriages between the two, if we take into account the great antagonism that one felt for the other, which is even to-day noticed in their descendants. The division still exists in some parts of Bolivia. Bandelier, speaking of the esoteric societies of the Aymarás, tells us that they are divided into *Ma-saya* and *Aran-saya*, and that in Tiahuanaco the former always dances to the north of the square and the latter to the south. If either division encroaches on the space allotted to the other, bloody battles follow. Everywhere the same antagonism was met with, and among the Inca tribes culminated in the civil war between Huascar, backed up by the *Hurin-sayas* and Atahualpa, whose cause was championed by the *Hanan-sayas*.

We remember that in other parts of the world the same interpretation has been given as to the origin of the division. Goldenweiser, commenting on this, says: "This dual division of the tribe seems to stimulate among natives a tendency to emphasize contrasts, with reference to the two moieties. One moiety is believed to be of local origin, the other to have come from elsewhere, or they are supposed to represent different physical types, or the names are contrasting, as, for example, in the case of the widespread Australian moiety names, Eaglehawk (white) and Crow (black)."[2]

While the majority of the tribes and clans of the Andean countries held well-defined conceptions regarding the essential difference between first ancestor and the totem, others, at least, to judge from what the historians tell us, believed themselves descended from animals, rocks, trees, plants, and other objects which constituted their totems.

[1] *Gobierno del Perú*, chap. vi, p. 16.

[2] *Early Civilization*, by Alexander A. Goldenweiser, p. 252. New York, 1922.

Some writers have thought that this might be the primitive idea of totemism, and perhaps its real origin, although the reasons they give for such opinions are not always the same. Among the Andean peoples, another reason is given in many of the myths and legends. The belief in a flood which destroyed the greater part of mankind was almost universal amongst them: and in some of the myths, the former generation of men were turned into stones, animals, and other things. These were supposed to have afterwards had sexual intercourse with the women of the new generation and procreated sons and daughters. The groups supposed to descend from these unions generally looked upon such animals and objects as their totems, while their *pacarina*, or first ancestor, was the woman who had founded their lineage by such means. In these instances the alliance between the two entities was matrimonial, or, at least, sexual. This phase of totemism does not seem to have been met with elsewhere: at any rate, we have seen no mention of it, but it was relatively common in these regions.

A more numerous group supposed that, after the Flood, their first ancestors were turned into stones, trees, hills, lakes, rivers, etc., and such were looked upon as *pacarinas* or *achachilas*, founders of the tribe or clan, but were not totems. Others, again, who held these geographical features to be totems, thought that their first forefathers had been turned into stones or had been buried in these spots, and therefore looked upon them with double reverence and veneration as the localities in which the spirits of both these tutelar beings resided. But by far the greatest numbers considered the totem to be the ancient ally of their first ancestor, bound to him by a blood-pact, which constituted them as mutual protectors of each other and of all their descendants. Thus we find, side by side, among contemporary peoples, a great divergence as to the origin of the institution, but in all cases the totem was a tutelary being and watched over the welfare of the community.

We now come to another disputed point. Did the totem have a religious aspect, or was totemism merely a social institution?

The correct answer depends greatly upon what is understood by religion; but if this is made to include all cults in which some being, spiritual or material, is venerated, is offered sacrifices to, or is invoked in times of stress, we should say, most decidedly, that among Andean tribes totemism was inseparable from religion, as it was from daily social life. The practices and ceremonies of both intermingled in such a manner that it was difficult to tell one from the other. Here we must join issue with Lang, when he says: "The tutelary spirit and the true totem, in my opinion, are utterly different . . . The theory that the hereditary totem of the exogamous kin is the 'spirit helper' or 'tutelary genius,' acquired by and transmitted by an actual ancestor, cannot be proved for many reasons. We *know* plenty of tribes in which the individual

has a 'spirit help': we know of none in which he bequeaths it *as the totem of an exogamous kin.*"[1]

We do not know if he would now maintain the same standpoint: but since he wrote the above, many proved cases have come to light of the hereditary totem of an exogamous kin being looked upon as the tutelary being of that totemic kinship group. Tozzer[2] has shown that the Lacandones and Mayas of Yucatan held such a belief. Sir H. Johnston registered the same fact among the Banyoro and Baganda of Uganda.[3] Le Roy, speaking of the Bantu tribes south of the Congo, says the totem "is a class of objects which are considered by members of the clan or tribe, as *tutelary* in the widest sense of the word."[4] Abbé Bros says, "Totemism is always characterized by a religious bond between the faithful man and his totem god. Essentially, it includes a pact celebrated with a class of divine beings *in order to obtain their protection.*[5] Trilles is more emphatic as regards the Fan. He says: "The totem *is always a living tutelar being.*"[6]

These opinions are entirely borne out by our investigations among the South American tribes. In every instance, the totem was looked upon as the being from which the clan descended, or that with which the founder had formed an alliance; *it was always tutelary and protective.*

But we are agreed with Lang when he expresses himself unwilling to admit that the *manitu*, or individual protector, of certain members of North American tribes is the true totem. In the Andes region we find the same personal tutelary spirit, frequently an animal or other living creature, but sometimes an inanimate object. These are mentioned by some of the first missionaries, and included among the *conopas*, or household gods, but never confounded with the totem, either by the Indians themselves or by the Spanish priests. They had a distinct origin, a different name, and ended with the life of the possessor. They were different also from the *nahual*, in that they could not be employed for evil purposes. They were different from the totem, in that they were spirits obliged by magical influences to afford assistance and protection to the individual that owned them, but to none other. The animal or object in which they were supposed to abide were their temporary residences, and they became free on the death of their possessor, but the animal or object was buried with him. Sometimes the spirit or force was supposed to reside in the whole species or class of objects, but more generally it was reserved to a special individual of such.

[1] *The Secret of the Totem*, 1905.
[2] *A Comparative Study of the Mayas and the Lacandones*. New York, 1905.
[3] *The Uganda Protectorate*, 1904.
[4] *La religion des Primitifs*, 1911.
[5] *Religion des peuples non civilisés*, 1907.
[6] *Le Totemisme chez les Fan*. Munster, 1912.

This class of personal tutelary spirit, indicated in the first place by fasting, and visions during the initiation rites following puberty, was thought to be first of all controlled by magical rites and personal sympathetic magic. When this was not sufficient to bring about its subjection, the shaman was appealed to. These sympathetic magic rites were common to fetishism, but had nothing in common with totemism, and among these peoples, the being *was nothing more or less than a special and particular fetish*, distinct from the family or communal fetish, and could not be inherited. In our opinion, the so-called individual totems of many of the North American tribes should be placed in the same category, and would probably be found on a closer observation to have the same characteristics as the individual tutelary beings of the Peruvian and Chilian Indians.

Arriaga calls these personal tutelary spirits or fetishes *Huacicamayoc*, and gives us a curious illustration of how some of them were acquired. He says that they were of different classes and figures, although frequently they were small stones which had something remarkable about them (as is the case with most fetishes). "And it sometimes happens (and it is not seldom that such cases have been noticed) that when an Indian, man or woman, finds one of these by chance, or something similar that calls his attention, they take it to the shaman and say to him: 'Oh, father, I have found this, what can it be?'" And he with great wonder tells them that it is *Conopa*. "Reverence and venerate it with great care, and it will provide for you plenty of food and ease."[1]

The Augustine monks of the beginning of the seventeenth century, in their reports, state that the *Huasicamayoc* (protector of the house) was sometimes indicated in a dream or vision revealed to some Indian in a desert place, and considered a sign that this being or object should be chosen as a special tutelary being by such an individual. This reminds us of what Sarmiento tells us of Inca Yupanqui, regarding his election of the double-headed serpent as his totem, "because the Thunder-god appeared to him and spoke to him in a desert place, and gave him a serpent with two heads to carry about with him always, saying that while he had it with him nothing sinister would happen to him or his."[2] It is very probable that this is only a garbled account of the acquiring of a tutelary spirit, because we know that it could not be related to the double-headed serpent which was already the totem of his ayllu, but it shows us that the method of obtaining such a spirit was similar to that of the North American Indians. It is possible that the *manitu*, or protecting spirit, of these Indians was in reality looked upon by them not as a totem but as a personal fetish, and this would explain many anomalies.

[1] *Extirpacion de Ydolatria.*

[2] *Historia Indica*, chap. xxxi.

While speaking on this point it is as well to take into account Van Gennep's contention that the *manitu* was not, in its primitive sense, a protecting spirit, but a supernatural force of magico-religious potentialities.[1] This would apply to a fetish, but not to a totem, which could not be coerced by magical means as could the former.

If not universal, the idea that the totem was a protecting and tutelary being or spirit is very generalized in many extensive regions, and even among some Australian tribes is considered as such, although there may be many that do not look upon it as such. Then comes the question as to which conception is more primitive and which more wide-spread. For our part we do not believe that the time for dogmatic declarations has yet come, and many of those seemingly established fifteen or twenty years ago have now to be reconsidered, owing to new discoveries or new interpretations of formerly known facts.

All the South American tribes were animistic in their religions. Most visible things were endowed with spirits, either their own or that had taken up their residence in them either temporarily or permanently. There were also many independent spirits that had no fixed place of abode and were not related with any special object or locality—nature spirits, imaginary spirits, mostly considered as malignant, and many others. Above all, there were human spirits, those of their ancestors and of the ancestors of others. Those that were of their own blood-kin were venerated and revered, and this constituted the basis of ancestor-worship. These spirits of their deceased kin were supposed and expected to defend and protect their living descendants against all other spirits which might seek to do them harm, and in this they were aided by the totemic spirits.

We speak of ancestor-worship, but among the Indians there was no real worship in the European sense of the word. Their cult was based on reciprocity. The spirits, although invisible and intangible, were conceived in a material form, and had the same necessities, wants, passions, and desires as their living representatives, which were attended to and supplied by their human kin. This is the reason why the latter made them offerings and sacrifices, why they buried with the dead all they were supposed to want or desire, why these gifts and offerings were, at least among some peoples, periodically renewed. But, in exchange, they expected these spiritual beings to use their superhuman or supernatural powers in their defence, protection, and general welfare. Usually, they did not supplicate, but rather demanded it as a right, as a compensation for favours rendered.

That this was the real conception underlying the ancestor-worship of the Andean peoples is made manifest on examining the etymological significance of the terms used to speak of these rites. Among the Araucanians, the word

[1] *Religions, mœurs et légendes*, pp. 52–3. Paris, 1909.

employed to refer to their family or communal meetings to offer gifts or sacrifices to their tutelar beings, is *ngillatun*, derived from *ngillan*, to buy or barter or make an exchange. Their marriage bargains, in which the relations of the contracting parties meet together to fix the price of the bride and to make payment of the same, are also called *ngillatun*, and the same thing holds good when the Indian sells his live-stock, agricultural, or other produce, receiving in exchange a fair equivalent. In Aymará, *ala*, from *alani*, to make an exchange, as in *alatha* or *alasitha*, to purchase by exchange, appears also in the term *alaya-sitha*, to make offerings to the dead—*ala* an exchange, *aya* the dead, and the verb-ending *sitha*, which generally means to make or effect.

All this does not agree with our idea of worship in a modern sense, but was in complete accordance with the Indians' materialistic conception of things; and even among the later Incas, after they had deified their principal tutelary beings, the whole basis of their cult was the reciprocal exchange of favours, not now demanded as a right, but more humbly solicited as benefactions or boons in aid or succour of the suppliants. To interest the gods and gain their benevolence they still continued, on a larger and more magnificent scale, the public offerings and sacrifices: but, even so, their household gods, their ancestors, their totems and their fetishes were those most relied upon for their individual and family requirements or desires.

In all private affairs, such as baptisms, naming of children, puberty rites, marriages, child-birth, and burial ceremonies, the gods took no active part: while the ancestors and the totems always presided over such, and their leave, consent, and protection were sought by means of propitiatory offerings and invocations. Therefore, among the Andean tribes, at the time of the Spanish Conquest, it may be safely assumed that totemism was a social-religious institution and that it is quite impossible to separate these two aspects, as they invariably intermingled in all their manifestations, whatever may have been their ultimate origin.

But in Andean totemism there is also a link which connects it with fetishism, on the one hand, and with nature-worship on the other. We find in all the more cultured communities, esoteric societies, which frequently contained members of different related clans, or often an entire clan. These societies, to which admission was obtained only by a special initiation, had their own totems, independent of those of the clan or tribe. Each society or brotherhood was supposed to be in charge of one of the principal activities of the tribe, such as hunting, fishing, rain-making, agriculture, etc., or to be able to regulate or influence, sometimes by magical means, the different phases of the communal welfare. There were Sun Societies, Rain Societies, Religious Societies (whose duties were to look after all the gods or other venerated beings, to see that their wants were supplied or their desires attended to, and to use their magical

powers to influence those that were amenable to such, in case of stress or public calamities), Medical Societies, Hunting Societies, and many others.

Some of the so-called original ayllus of the Incas, were in reality *cofradias* or esoteric societies. Such were the *Mascas*, or medical society: the *Tarpuntays*, or thunder society, who afterwards became the official caste of sacrificing priests; the *Huacaytaquis*, a religious society, whose office it was to sing and dance before the idols: the *Sañoc*, or potters, who made the sacred pottery and the clay images of the gods or idols.

The totems of some of these were known: for instance, that of the *Tarpuntays*, was the serpent, which always occupied an important place in the rites, and when their chief Inca Yupanqui rose to power it was raised to the rank of deity and placed on a par with the sun in all the official ceremonies: that of the *Quispis*, one of the clans of the *Masca* tribe, was a rock crystal from which they derived their name, and supposed to have magical healing powers: that of the *Sañoc*, which, according to Arriaga, was called *Sañumama*, the mother of the *Sañu* or *Sañoc*.[1] It was represented by a large earthenware vessel, accompanied by two smaller vessels, her sisters, and a number of little ones, which were her children. They were all of the form known as *arybals* common to the Inca pottery. At the time of the feasts they were adorned with rich dresses such as the princesses of the royal blood were accustomed to wear. The Rain Societies, held the frog to be the symbol of their totem, the water. We have already mentioned the symbols of the Sun, which were generally birds of prey.

Some of the chroniclers, like Father Rosales and Gonzalez de Najera, give us a few details respecting one or another of these societies. The Catholic clergy in all the countries were obliged to tolerate them, and even admit their songs and dances, invocations and rites into the ceremonies of the Church where, even to-day, they persist, although their origin and meaning is forgotten.

Bandelier describes some of the most important of those which practised their pagan rites in the Titicaca district, and we, in other writings, have given a description of those still performed in Chile.

In the dances we have seen, as well as those spoken of by Bandelier, the dancers imitated the movements and cries of the animals or birds in whose honour the dance was made. Among the Araucanians, the principal of those still practised are those called after the ostrich, the puma, the plover, and the jaguar. The performers still dress in the skins and feathers of these beasts and birds, and imitate as well as they can their movements and cries. The invocations are also made to the same, and are entirely similar to those reproduced by Molina as being offered to the Inca gods during the great festivals.

[1] *Sañu* means earthenware: *sañu-alpa*, the earth it is made from; *sañu-turo*, the prepared clay; *sañu-tica*, burnt bricks; *sañu-camayoc*, the potter. *Sañoc* is the abbreviation of the last term, and means "the potters."

We have nowhere found a belief in the transmigration of souls in the totemism we are speaking of, nor is there, as far as we have been able to discover, any vestige that it may have originated in an effort to explain the mystery of conception and child-birth. As a matter of fact, in all the languages of which any record is left, there are well-defined names which completely express the physical and physiological functions of both parents, even among the tribes whose cultural state is least developed.

Our researches have shown us also, that there were no *essential* differences between the totemism of the lowest and the highest, the most primitive and the most civilized of the Peruvian tribes like those of the Incas. In all, the totem was looked upon as a spiritual being, and its origin was usually supposed to have been an animal, or natural object, or phenomenon elected by an ancestor as an ally and protector for himself and his descendants, who accepted certain responsibilities in favour of the totem animal or symbol and its descendants. The totem was the eponymous being from which the clan and all its members took their names. Sometimes the two entities were confounded in one, with a double personality, and often the denominations corresponding to both were applied to him and he partook of a dual nature.

We do not attempt to explain all the facts, or to theorize on the origin of such beliefs. For the moment we content ourselves with setting forth the facts as we find them, giving a few ideas on the manner in which the Indian looked upon some of these questions.

It will probably be said that many of them may be derived from zoolatry and dendrolatry, but we cannot admit of such a point of view, as outside of the manifestations of ancestor-worship and totemism there is no sign of either the one or the other; and, as we have shown, the class of animal totems, or that of trees, is only occasional, and is not common except among the hunting and fisher tribes. Among the agricultural peoples living creatures give place to natural phenomena, celestial bodies or geographical features, and there is no special respect or veneration shown to either animals or trees.

At any rate, we maintain that in any further generalizations made as regards this institution it becomes necessary to give greater consideration to American totemism than has hitherto been done, as some phases of it differ fundamentally from what has been held to be its classical form in other continents.

THE CHANCELADE SKULL.

By Professor W. J. Sollas, Sc.D., F.R.S.

The Chancelade skull is one of the most interesting and important relics of the Magdalenian Age. Previous to its discovery by Messrs. Féaux and Hardy in 1888, Dupont (1872) and Dawkins (1874) had hazarded the suggestion that the Magdalenian races of Europe, so far from being extinct, were still in existence, and, indeed, that the Eskimo of the far North are their lineal descendants.[1] The announcement by Testut in 1889 that the Chancelade skull found in Dordogne[2] had once belonged to an Eskimo man came as a dramatic surprise, for no one—least of all its propounders—had imagined that this bold hypothesis would have received so speedily such a striking confirmation.[3]

Testut, who was one of the most distinguished anatomists of his time, published his account of the Chancelade skeleton in a work of 150 pages illustrated by 12 plates, of which 50 pages and rather over 9 plates were devoted exclusively to the skull. The description is a masterly performance, worthy in all respects of its distinguished author, and the important conclusion to which it leads has received ready and general acceptance.

At the time my work on *Ancient Hunters* first appeared it had been questioned, I believe, by no one; but since then it has been disputed by Sir Arthur Keith, whose arguments I have recently submitted to examination.

As the question has so direct a bearing on our enquiries into the origin of the existing races of mankind, I have been led to re-examine the skull in the light of our present knowledge, and have endeavoured to determine as precisely as possible the degree and extent of its resemblance to the existing Eskimo. In this task I have been greatly aided by the monumental monograph of Fürst and Hansen on the Greenland Eskimo, and have had the advantage of being able to make direct comparison of the Chancelade skull—represented by an excellent cast—with the fine series of Eskimo skulls preserved in our University museum. I have also paid several visits to Périgueux, where, by the kindness of my friend, M. Féaux, the distinguished curator of its famous museum (Musée du Périgord), I have been able to make confirmatory observations on the original.

[1] It is well known, however, that Europe was inhabited in the Magdalenian Age by other races also which differed in important characters from the Eskimo.

[2] L. Testut, "Recherches anthropologiques sur le Squelette quaternaire de Chancelade." *Bull. Soc. d'Anthrop. de Lyon*, 1889, t. viii.

[3] It has been alleged that Testut was influenced by the views of Dupont and Dawkins when studying the Chancelade skull. I can discover no evidence of this; indeed, it is said that he was surprised at his own results.

As Testut's work does not appear to be generally known in England, I venture to present a rather long abstract of it.[1] This will relieve us from the necessity of repeating a good deal of detailed description when we pass on to our own observations.

We begin with Testut's account of the state of preservation of the skull when it reached his hands. In the introduction of his memoir he remarks, after speaking of the bones of the trunk:—

"The skull has been the object of my most anxious attention. After having obtained, thanks to the large aperture at the base, an impression of the interior surface (impossible now), I have filled up, partly with plaster of Paris, partly with papier mâché, all the cracks and lacunæ, both in the calotte and the base, taking scrupulous care to preserve the original form, and particularly (where it was necessary to make restorations) the thickness of the wall, so as to ensure exactitude when it came to determining the capacity by gauging.

"I next turned my attention to the face, which required even more delicate treatment, since, apart from the maxillæ, this was represented only by fragments. I succeeded, however, in building these up, and have restored the face to its original form. I even found it possible, after several attempts, to replace the right occipital condyle in its proper position, thus making it possible to determine the alveolo-condylar plane, and consequently to measure the prognathism and to obtain stereographic projections of the face and cranium.

"I have exercised in all these operations the greatest possible care, aiming before all at rigorous exactitude. Need I add that I have approached my task with a most open mind? I consider that in all scientific enquiries, most especially in Anthropology, *a priori* conceptions should always yield to observed facts, and that one should have no other preoccupation than the search for truth. As Broca has well said, 'La verité, quelle qu'elle soit, doit toujours être la bienvenue.'"

Testut then proceeds to describe the several regions of the cranium, and gives further information on the state of preservation of the skull. He remarks that, except for a hole made by the stroke of a spade in the region of the bregma, the vault is admirably preserved but not the base. The anterior moiety of the occipital bone was divided into five or six fragments: but, fortunately, the two temporal bones were in place, and this made it possible to restore the fragments to their original position. It was possible also to restore the foramen magnum with a close approximation to its true contour.

As to the basi-occipital, that had to be modelled in papier mâché; its median and posterior part bearing the left condyle served as a guide in this operation. By this reconstruction we are provided with that important cranial point—the basion.

[1] Omitting many measurements which will be found incorporated in the table on pp. 117 *et sqq.*

The sphenoid was seriously damaged; all that remained of it was a very small fragment of the body, the pterygoid apophyses and the small wings have almost entirely disappeared, but the great wings are well enough preserved for description. The nasal bones were present when the skull was exhumed, but were broken in the course of obtaining an endocranial cast.

[It will be seen from this summary of Testut's account that the position of the basion has been determined by reconstruction and, therefore, cannot be regarded as more than approximately exact. Further, in speaking of the fracture in the bregmatic region, no specific reference is made to the bregma, and this important landmark does not appear to have been preserved. (*See* p. 103.)]

Bones of the Skull.

Frontal.

We pass now to Testut's description of the bones of the skull, beginning with the frontal, which is "bombé" and broad; the glabella is nothing unusual, it corresponds to Nos. 1 or 2 of Broca's scale; the superciliary ridges are only moderately salient. The frontal bosses are well developed, but do not attain the median line from which they are 5 mm. or 6 mm. distant. That part of the frontal which contributes to the boundary of the temporal fossa (temporal facet of the frontal) is very high and broad, 25 mm. across on the left, 32 mm. on the right side: it is not concave as usual, but strongly convex on both sides. While the breadth of the frontal is only 102 mm. at the level of the temporal line (minimum frontal diameter), it becomes, 2 cm. further backwards, at the level of the temporal fossa, as much as 117 mm. This indicates a remarkable development of the third frontal convolution.

The frontal arc measures 130 mm. and the chord of the arc 115 mm., hence the length of the sagitta is 26 mm. [This would be represented now by the frontal index $\left(\frac{\text{chord} \times 100}{\text{arc}} = \text{index}\right)$, which in this case is 88·3. If, however, the bregma was (as it might have been) situated 6 mm. further back (*see* p. 103) the index would become 87·5; in the Eskimo its mean value is 87·01.]

The external orbital apophyses of the frontal are bent strongly outwards to join the ascending apophysis of the malar bone in adaptation to the considerable breadth of the face.

Parietal.

The parietal arc measures 147 mm. and its chord 128 mm. [Its index would thus be 87.] The parietal eminences are well marked on both sides. The double temporal line is obvious on the right side, less clearly evident on the left; its distance from the sagittal suture is 55 mm. on the left and 54 mm. on the right side. [At their closest approach, that of the left side is only 43 mm.—on the cast—from the median sagittal line.]

What particularly distinguishes the parietal bones is a depression which lies a little behind and outside the bregmatic region, so that vertical transverse sections of the skull, taken 2 cm. or 3 cm. behind the bregma, are slightly concave on each side of the median line, instead of being plane or convex.

Temporal.

The aperture of the auditory meatus is oval, with its major axis inclined from above downwards and from in front backwards: its height is 16 mm. and its breadth 9·5 mm. The zygomatic arch is a very characteristic feature; in front it is of great thickness, and its lower margin, instead of being rounded or sharp and thin as is usual in most modern skulls, broadens out transversely into a veritable face, 6 mm. to 7 mm. across. [Parsons[1] points out a similar feature as common in the Eskimo skull; indeed, his description of the zygomatic arch in the Eskimo would apply word for word to the Chancelade skull: it is as follows:—"The flat lower margin of the zygomatic arch. The concavity so usually seen in other skulls in the lower margin of the zygomatic process of the temporal is very feebly marked, while the lower free-border of the malar, instead of sloping downward and forward to the maxilla, is horizontal and considerably thickened."] It projects strongly outwards from its origin, so as to enlarge the lower aperture of the temporal fossa, thus affording room for a large temporal muscle. The base of the zygomatic arch forms with the squamosal an antero-posterior groove of unusual breadth. Its width, measured from side to side, amounts to 18 mm.

The glenoid cavities are broad and deep, but the most marked characteristic of the temporal region is the great development of the mastoid processes. Their height is 41 mm. on the right and 40 mm. on the left side. The breadth of the base, taken from the auditory meatus to the posterior part of the digastric groove, is 33 mm. on the right and 31 mm. on the left side. Their thickness, taken from the bottom of the digastric groove to the opposite point on the external face, is 18 mm. on the right and 17 mm. on the left side.

Occipital.

Above the inion the occipital bone presents two lateral bosses, leaving between them a vertical groove which extends from just below the lambda to the inion.

Sphenoid.

This is very much damaged, but that part of the great wing which contributes to the boundary of the temporal fossa is preserved and is remarkable for its great breadth[2] as compared with its height. The great wing is situated in a plane which is

[1] J. Brierley and F. G. Parsons, "Notes on a Collection of Eskimo Skulls," *Journ. Roy. Anthrop. Inst.*, 1906, xxxvi. p. 116.

[2] This has been independently noticed by authors as characteristic of the Eskimo.

much more internal than that of the squamosal behind; as a consequence, the temporal fossa is much deeper over this bone than over the squamosal, and the sphenosquamosal suture is marked by a very prominent vertical crest.

[It may be observed here that this suture is remarkably straight and that a similar observation has been made by F. G. Parsons[1] on Eskimo skulls:—"The alisquamous suture is much straighter than in most skulls. . . . When once noticed the appearance is very characteristic, and is seen in twelve out of the seventeen skulls."]

The Brain.

After a short description of the form of the skull as presented in its several normal positions, Testut passes to the endocranium. As bearing on the question of the age of the Chancelade man, attention is called to the rarity and shallowness of the Pacchionian impressions.

Impressions of the brain are clearly marked in the temporal region. The three temporal gyri, with the two sulci separating them, could be plainly traced running parallel with the Sylvian fissure and without interruption from end to end: they were evidently not united to one another by any connecting fold, but neatly separated and very simple.

In the occipital region the internal-occipital crest is absent, and its place is taken by a broad swelling, very prominent in front—a veritable bony column—15 mm. broad in the middle of its course, and 30 mm. at the level of the occipital foramen.

Hence, it is evident that the lateral lobes of the cerebellum were separated from each other by an interval of 1·5 cm. to 3 cm. and were less developed than in existing men. On the other hand, the vermis which occupied the interval must have been more developed than at present. It should be remarked, however, that the vermis was not very prominent behind, since the vermian fossette is absent.

The Sutures.

The sagittal and lambdoidal sutures are both very complex, the coronal remarkably simple: all three are open on the exterior but closed on the interior surface. The lower part of the coronal, however, in the vicinity of the pterion is entirely obliterated. The squamosal suture is open both without and within the cranium.

Fracture of the Right Temporal Region.

The right temporal region, which is well preserved, presents evidence of a fracture, remarkable for its extent and yet completely cicatrized. The fragments produced by it were driven into the skull to a depth which is visible on the outer surface.

[1] J. Brierley and F. G. Parsons, *loc. cit.*, p. 117.

The fracture is oval in outline, 63 mm. long by 32 mm. high. It affects the lower part of the parietal and the highest part of the squamosal bone: thus, there are two fragments united together by the squamosal-parietal suture. The parietal fragment is subdivided into two smaller fragments by a vertical fracture, as also is the squamosal fragment. The one parietal fragment which is not displaced has been cleanly broken, without splintering, along two lines diverging from a point. A fracture of this kind is only produced by a direct blow of great violence. On the interior of the skull the boundary of the fracture, so conspicuous on the exterior, is scarcely discernible. This shows how regularly and completely it had healed.

In the *Annales de Chirurgerie*, vol. viii, there is an account, illustrated by a figure, of a fracture of the skull which is remarkably similar to that just described. The sufferer was a coachman whose horses ran away with him. He was pitched out, and in falling his head struck the broken summit of a milestone, with the result that the parietal and squamosal bones were fractured and the right temple driven in: the fracture was oval, and measured 6 cm. by 8 cm. Notwithstanding the care which was lavished on him, the unfortunate man died within twenty-four hours. The man of Chancelade, with an equally serious wound and presumably without medical attendance, survived, such was his prodigious vitality.

After giving some craniometrical data, obtained by Broca's methods, and the several cranial indices, Testut proceeds to explain the process by which he gauged the internal capacity of the skull and found it to lie between 1,725 c.c. and 1,735 c.c., a result which he regarded as exact to within 5 c.c. Making allowance for the absence of the body of the sphenoid, he arrived at a minimum value of 1,710 c.c.

[Professor Karl Pearson is of opinion that this is just what might have been expected from the method, but that, reckoned from the length, breadth, and height, it was probably in excess by 60 c.c. to 80 c.c.[1] Miss Tildesley[2] came to the conclusion that the true value is probably 1,650 c.c., Mr. Dudley Buxton's calculations lead to 1,660·6 c.c.,[3] and Professor Pearson[4] admits as possible 1,657 c.c.

By an unfortunate choice of a formula, Sir Arthur Keith[5] obtained as a result 1,530 c.c., and published this estimate without making any reference to Testut's statement. This is to be regretted, partly because it is liable to prejudice discussion, but more particularly because by far the largest number of observations on cranial capacity have been obtained by gauging. It is important, therefore, in making comparisons to know the values obtained by gauging as well as by calculation.

No one needs to be informed that great cranial capacity characterizes other races besides the Eskimo, but in a comparative study it is necessary to take into account all the important features presented by the object under comparison. Of these the cranial capacity is one.

[1] *Man*, 1926, xxvi, p. 49. [2] *Ib.*, p. 3. [3] *Ib.*, 1925, xxv, p. 156
[4] *Loc. cit.* [5] *The Antiquity of Man*, 1925, i, p. 83.

I cannot dismiss this question of capacity without confessing, however unwillingly, my distrust of results obtained by applying a general formula to particular instances, and I have consequently made an independent examination in the following manner :—Selecting the Eskimo skull shown in section in Figs. 2 and 8 (No. 856 of our collection), I spent an afternoon in gauging it with millet seed and found for the capacity 1.610 c.c. Next, after rendering it watertight, I gauged it with water, and found for the true capacity 1.635 c.c., thus not less, but 25 c.c. more, than that given by the millet seed.

The capacity calculated from Professor Pearson's formula—

$$C = 33{\cdot}9 - 0{\cdot}00049(197 \times 132{\cdot}5 \times 117)$$

is 1.530·3 c.c., *i.e.* about 100 c.c. too low.

This and the Chancelade skull are so similar in general form that I have ventured upon the following rough-and-ready method of comparison. The area of the sagittal section of the skull, bounded on the facial side by the nasi-basion line, was cut out in tin-foil, and the weight of this, divided by the weight of 1 sq. cm. of the foil, gave the measure of the area as 205·6 sq. cm. Dividing the capacity (1.635 c.c.) by this number (205·6), we obtain a third factor, 79·52, which is related to the breadth.

The Chancelade skull, similarly examined, gave 214·9 sq. cm. as the area of the sagittal section, and dividing Testut's minimum value of the capacity (1.710) by this, we obtain 79·57. But the breadth of the Chancelade is so much greater than that of the skull No. 856 that we should have expected a greater difference than this between the respective factors : it would, indeed, seem possible that Testut had really allowed too much for the absence of the missing body of the sphenoid when he deducted 25 c.c. from his gross result. With a capacity of 1.735 c.c. our third factor becomes 80·73, which does not seem unreasonable.]

Testut next passes on to the bones of the face.

The Bones of the Face.

Maxilla and Palatine Vault.

The alveolar borders of both maxillas are without alveoli in their hinder part, and the alveoli of their anterior part are more or less filled up by cicatrization. This shows that the man of Chancelade had lost during his life nearly the whole of his upper teeth. Two alveoli only, those of the canines, are still sufficiently open to allow us to suppose that the teeth have disappeared after death. One tooth only is still in place—the second right incisor—which is very small (6 mm. from front to back and 5 mm. from side to side) and worn down to the neck.

The form of the palatine vault is elliptical, while that of the Crô-Magnon man is parabolic. The palatine index is 67·92. On comparing this with the indices of

other races, we find that the Chancelade man is far removed from Neolithic man and modern Parisians. In this feature he stands between the Eskimo (68·4) and the Tasmanians (67·8).

The palatine vault is strongly rugose and asymmetrical. There is a well-developed palatine torus, such as Broca has already shown to exist in the "Old Man of Crô-Magnon."

The Nose.

The nasal bones have almost completely disappeared, but they were present and complete when the skull was discovered, and even when it was sent to Professor Testut by M. Hardy. Very thin and extremely fragile, they did not survive the operation of taking a cast of the interior of the skull. All that can be said of them now is that they were extremely narrow and very much bent to the left, and that on passing from the frontal below the glabella they curved upwards and forwards till they attained an almost horizontal position at their extremity. The nasal index is 42·6. The Chancelade man was therefore leptorrhine, like the Guanches (44·25) and the Eskimo (42·62).

Malar.

The two malar bones are complete; they are remarkable for their projection outwards and for their great development. The plane of the outer face of the malar bones is not vertical, but very oblique from above downwards, from within outwards, and from behind forwards.

Orbits.

The two orbits seen *en face* appear to be unequal in size, as in fact they are; the right orbit is a little higher and not so broad as the left :—

	Breadth.	Height.	Index.
	mm.	mm.	
Left orbit	39 or 38	32	82·05
Right orbit	37	34	91·89

Did this inequality exist originally, or is it due to an error in the restoration of the face ?

I have taken every precaution to ensure that the right malar should be truly placed, and I can affirm almost with certainty that this bone occupies very nearly its natural position. That which confirms me in this belief is that comparative measurements of the two malar bones suggest an explanation of the inequality in question. Thus, the length of a line taken obliquely from the inferior margin of the orbit to the inferior angle of the malar is 29 mm. for the right side and 31 mm. for the left side.

The 2 mm. in excess in the height of the right orbit thus results from the 2 mm. in defect presented by the height of the right malar. The mean of the two indices is 86·97, and thus the Chancelade man belongs to the mesoseme group along with Eskimo (87·8), Indo-Chinese (88·9), Javanese (88·3), etc. It should be observed that in the "Old Man of Crô-Magnon" the index falls to 61·36.

The area of the orbital apertures, as represented by the mean of the two, is 1,237 cm.

The amount of the slope backwards of the plane of the orbital aperture is given by the naso-malar angle of Flower, the apex of which is the nasion, and the sides, the lines drawn from this to the two outer points immediately below the termination of the external orbital apophyses of the frontal. In the Chancelade man it is 145°; in the Eskimo it is 144°. The depth of the left orbit is 56 mm.; in the Eskimo it is 57·7 mm.; in modern Parisians, 50·9 mm.

After giving measurements of the face and discussing the prognathism, Testut remarks that what strikes one at once in a front view of the face is its great height, and this does not arise from its narrowness, for its transverse diameter as measured from one zygapophysis to the other amounts to 140 mm. The face of the Crô-Magnon skull is, however, even broader. A better appreciation of this character is given by the facial index which Testut obtains from the relation:—

$$\frac{\text{Ophryo-alveolar height} \times 100}{\text{Bizygomatic diameter}}\ ;\ \text{thus } 102 \times \frac{100}{140} = 72{\cdot}85.$$

The index for Crô-Magnon is 63·63; for modern Parisians, 66·2; for the Chinese, 71·7; for the Eskimo, 72·2. The Crô-Magnon face is, therefore, as remarkable for its shortness as the Chancelade for its length.

The ratio of the nasi-alveolar height of the face to its breadth gives us another index—the index of breadth. The breadth may be represented by three different diameters, all horizontal and transverse—they are the bi-maxillary, bi-malar, and bi-jugal. The measurements obtained are considered to support the resemblance of the skull to that of the Eskimo.

The Mandible.

The mandible is perfectly preserved and complete but for the absence of the anterior part of the right condyle, a part of the right coronoid apophysis, and the antero-internal part (one-quarter) of the left condyle. It is characterized by its narrowness—which is related to the elongation of the skull—the strength and thickness of the body, and the development of the rami.

The anterior face of the body presents a symphysial prominence with a very oblique slope downwards and forwards: the angle formed by the symphysis with the inferior margin of the bone is 70°. It terminates in a chin which is broad and prominent.

The mental foramen, round on the right side and oval on the left, is situated 31 mm. behind the symphysis.

The exterior oblique line, faintly enough marked in front, is strongly expressed behind, where it assumes the form of a sharp salient ridge.

The posterior face of the body bears very rudimentary apophyses geni. On each side extend very broad but shallow mylo-hyoidean grooves. Above them the alveolar border swells inwards in the form of two longitudinal ridges, both very high and very thick [alveolar tori]: they encroach considerably on the parabolic space destined for the tongue. At the level of the tori the alveolar border attains a thickness of 13 mm. to 14 mm.

The inferior margin of the mandible, smooth and rounded, is also very broad, above all in the middle part, when it measures 11 mm. in thickness. At the level of the symphysis itself it extends backwards to form a broad surface, or rather excavation, deep and rugose, which served for the insertion of the anterior belly of the digastric muscle. This measures 28 mm. from side to side and 12 mm. from front to back. Testut remarks that he has never seen this fossette for insertion so strongly developed. Fraipont has observed a similar enlargement in the mandible of Spy, No. 1, and named it the "basal face." Such a feature is evidently the result of an unusual development of the anterior belly of the digastric.

The rami are remarkable for their breadth; they measure 47 mm. from the summit of the coronoid apophysis to the condyle, and 47 mm. also from the base of the coronoid apophysis to the parotid border; from the anterior to the posterior margin, at the level of the middle of the ramus, they measure 43 mm. The length, taken from the gonion to the summit of the condyle, is 73 mm. The index of breadth is, therefore, $43 \times \frac{100}{73} = 59$.

The bi-condylar breadth is 118 mm., the bi-gonial breadth 93 mm., and the mandibular angle 114°. [Testut had no data for comparison of these values with the Eskimo, except for the mandibular angle which Broca gives as 115·5°.]

The two faces of the ascending rami present evidence of a considerable development of the elevator muscles of the jaw. The internal face presents below and behind a series of very prominent ridges for the fascia of the internal pterygoid: the external face, instead of being plane, as usual, is strongly excavated in the middle and lower part to furnish a more extensive surface for the attachment of the masseter. This excavation appears all the greater owing to the outward curvature of the mandibular angle, which thus forms a powerful apophysis, recalling the characteristic arrangement found in some species of apes.

It is worth noting that this excavation of the external face of the ramus is much more marked on the left side than the right; the right, indeed, is almost plane. Besides this, comparative measurements show that the right ramus is not quite so high or so broad as the left. This may fairly be connected with the injury inflicted

on the skull, which may be presumed to have deprived the man of Chancelade of the use of his right temporal muscle, so that by degrees he accustomed himself to masticate on the left side. Then, as the right masseter and temporal muscles ceased to function, wholly or in part, the osseous regions to which they were attached would correspondingly atrophy.

We may further conclude that our robust troglodyte survived his terrible wound a long time—a very long time—for the lesions of osseous atrophy we have indicated above would require for their production, not months, but years—several years.

The Teeth.

The maxilla, as we have seen, presents only one tooth—the 2nd right incisor—and this, much worn, is comparatively small. In the lower jaw there still remain :

1. On the left side the canine, both premolars, and the 2nd and 3rd molars. Both incisors and the 1st molar are missing, but their disappearance is certainly posthumous, for their alveoli are fully open and show no trace of cicatrization.

2. On the right side are the canine, both premolars, and the 3rd molar. There is, it is true, an additional tooth which has been inserted into the alveola of a molar ; but this is evidently not in place, it appears to be one of the incisors—unless it belongs to another subject. On this, as on the left side, the loss of the incisors appears to have been posthumous. All the teeth are much worn. Not only the cusps, but the greater part of the crown itself has disappeared : indeed, the 2nd left molar is ground down to the root.

The plane produced by the wearing down slopes from above downwards and from without inwards in all the molars, but most markedly in the 3rd left molar. It is almost horizontal in the left premolars and canine. In the right canine and 1st premolar it slopes from above downwards and from within outwards.

Measurements of the teeth afford the following results :—

Teeth.	Diameters.		
	Antero-posterior.	Transverse.	Mean.
	mm.	mm.	mm.
Molar 1	Absent.	Absent.	Absent.
,, 2	9·5	12	10·75
,, 3. R.	11	11·25	11·12
,, 3. L.	12	12	12

Thus, the 3rd molar, or wisdom tooth, both on the right and left side, is larger than the 2nd.

The Chancelade jaw diverges by this character from existing European races and approaches the negroid races, as well as the Quaternary jaws of Spy and Naulette.

It may be noted also that the wisdom tooth is separated from the ramus by an interval of not less than 1 cm., while in civilized races it more often applies itself to the ramus, and is even deprived sometimes of sufficient room for its development.

Finally, we should remark that the 3rd molars still possess a considerable part of their crown, while the crown of the 2nd molar has been wholly worn away. It would, therefore, appear that the wear of the teeth had begun at an early age, since the 2nd molar had already suffered from it before the 3rd had made its appearance.

From the state of the teeth and of the cranial sutures, it is concluded that the age of the Chancelade man was over 50 and under 70 years, and most probably between 55 and 65.

The stature is estimated at 1·50 to 1·51 m.: that of the Eskimo is given as 1·54 m. [Later calculations give for the Chancelade man: 1·592 m. (Rahon),[1] 1·575 m. (K. Pearson).[2] Observations on Eskimo men give 1·577 m. (Duckworth)[3] and 1·575 m. (Boas).[4]] A synoptic table of measurements is given on p. 111 of Testut's memoir, but as this has already appeared in *Man*[5] there is no necessity to repeat it here.

This concludes our abstract of the most important part of Testut's description, and I think we shall readily recognize that he had, as he hoped, no other pre-occupation than the search for truth, and that his conclusions are the logical result of a searching and conscientious study.

In what follows we shall be occupied chiefly with a comparative study of the Chancelade and the Eskimo skull, analysing in detail such resemblances and differences as they may present.

It has been objected—and no doubt with justice—that there is great danger in forming a judgment on the evidence presented by a single skull. "Unus est nullus," it is said. But there is no universal rule,[6] and in the present instance we are dealing

[1] Rahon, *Mém. de la Soc. d'Anthrop. de Paris*, 1893, p. 414.

[2] Karl Pearson, "Mathematical Contributions to the Theory of Evolution. V. On the Reconstruction of the Stature of Prehistoric Races," 1899, *Phil. Trans.*, vol. 192A, p. 205.

[3] Duckworth, *Proc. Cambridge Phil. Soc.*, 1909, vol. x, p. 290.

[4] Boas, *Zeits. f. Ethn.*, 1895, vol. xxvii, table 1, p. 371.

[5] *Man*, xxv, p. 160. Referring to this table, Sir A. Keith remarks that it "would bring the skulls of thousands of genuine Europeans into the Eskimo fold" (*Man*, loc. cit.). This is as it may be, but what is certain is that it reveals in a great number of particulars a remarkable resemblance between the skull of Chancelade and that of the Eskimo, as well as striking points of difference between them and the Crô-Magnon skull. It also includes a reference to other bones besides the skull. But what it does not do is to produce all the evidence elsewhere provided in the letterpress and by illustrations.

[6] The effect of an uncompromising application of this maxim is illustrated by the history of the Neanderthal calotte.

with a skull of very distinctive characters, and with the Eskimo, a race of equally distinctive characters.

How true this is of the Eskimo has been recognized from very early times. Even so far back as 1722, Winslow, a Dane, called attention to the fact, and summarized in an admirable manner the leading characteristic of this race. Thus he remarks on the length and narrowness of the skull, with its acute or angular summit, the salient occiput, almost pointed, the extension upwards of the semicircular lines of the temporal muscles, sometimes even to within an inch of the summit, and backwards as far as the lambdoidal suture. Further, the extreme narrowness of the nasal bones, the breadth of the two being less than that of one in the French skull: the nose as a consequence very depressed and flat (snub): the remarkable size of the orbits and cheek-bones, giving great breadth to the middle of the face: the great breadth of the mandibular ramus: and, finally, the curious feature that the alveolar border of the lower jaw in some cases narrows forwards, and does not quite fit the maxillary arch, which is more circular—all features which are to be found more or less fully expressed in the Chancelade skull.

Since Winslow, almost every anatomist who has paid serious attention to the Eskimo skull has discovered some additional peculiarities. Topinard, Virchow, Soren Hansen, Duckworth and Pain, Oldfield and Thomas, Brierley and Parsons, Oetteking and Kramberger have all made their contributions, and the whole is crowned by the superb monograph of Fürst and Hansen.[1]

We are now prepared to enter upon an independent examination of the Chancelade skull, making especial use of this monograph for the purpose of comparison.

Norma Verticalis.

The outline[2] is elliptical (Fig. 1, *a*), which, next to the ovoid, is the commonest form among the Eskimo. Such outlines, curiously enough, are characteristic, according to Sergi, of Eurafrican races, and none of the outlines which characterize the Eurasian races are ever met with among the Eskimo.[3]

[1] Carl M. Furst and Fr. C. C. Hansen, *Crania Groenlandica*, Copenhagen, 1915.

Of more recent works mention should be made of the following:—H. Hoessly, "Kraniologische Studien an Schadelserie aus Ostgrönland"; *Nouveaux Mémoires de la Société Helvétique des Sciences Naturelles*, t. 53, pp. 1–54, 1 map, 3 plates; A. Thomson and L. H. D. Buxton, "Man's Nasal Index in Relation to Certain Climatic Conditions," *Journ. Roy. Anthrop. Inst.*, 1923, liii, pp. 92–122, 1 plate; A. Hrdlička, "Catalogue of Human Crania in the U.S. National Museum Collections," *Proc. U.S. Nat. Mus.*, 1924, lxvi, fasc. 12, pp. 1–51; George Montandon, "Craniologie Paléosibérienne," *L'Anthropologie*, 1926, t. xxxvi, pp. 209–96.

[2] The so-called Frankfurt line is taken to determine the horizontal plane, in order to make comparison with Fürst and Hansen's results.

[3] Professor Karl Pearson remarks that in this norma "one misses . . . the characteristic 'beetle' formation of the Eskimo." A curious scarabœid outline is, indeed, very common among the Eskimo, but it is far from being universal, and how closely the Chancelade outline resembles that of many Eskimo may be seen from the illustration (Fig. 1).

The frontal contour resembles that of the Eskimo: the temporal facets of the frontal bones are unusually large and "bombé" and the zygomatic arches, though not so fully exposed as in most Eskimo, are not more completely concealed than in 8 out of the 50 Greenland skulls figured by Fürst and Hansen (Fig. 1, *b*).

The sagittal suture, which is absent from the first 50 mm. of its course, owing to the gap in the skull mentioned by Testut, is flattened, as is usual in the Eskimo, in the obelion-lambda plane. This plane begins 70 mm. above the lambda and continues downwards on to the upper part of the occipital squama (Fig. 2). It combines with the roof-like slope on each side of the sinciput to give a characteristic form to

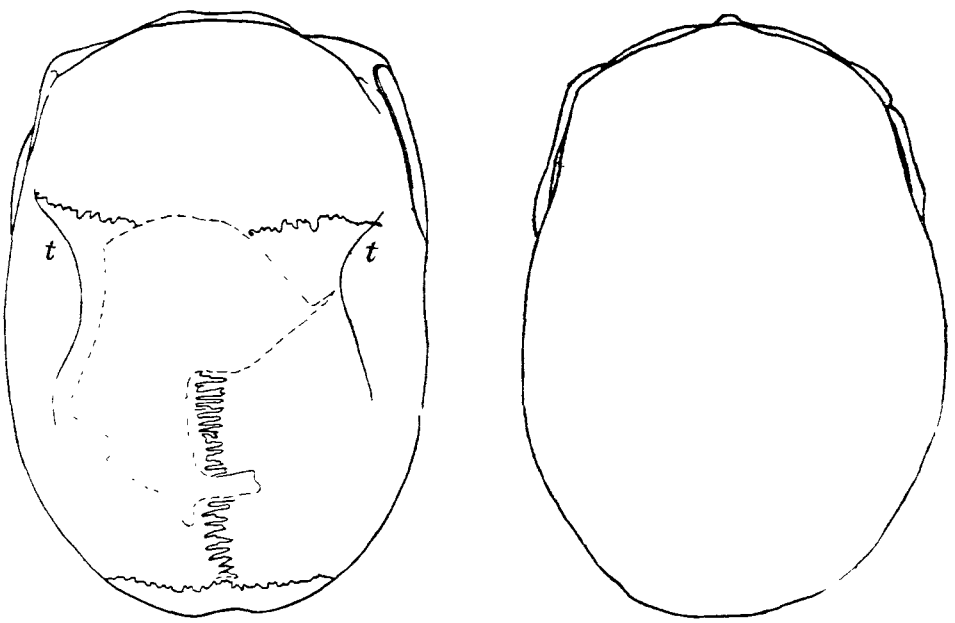


FIG. 1.—*Norma verticalis*. *a*, CHANCELADE SKULL; AREA WITHIN BROKEN LINE, VACUITY IN ROOF; *t t*, SUPERIOR TEMPORAL LINES. *b*, ESKIMO'S SKULL, TRACED FROM FIG. 73, PL. IX, FÜRST AND HANSEN. ($\times \frac{1}{12}$.)

the skull, such as prevails among the Eskimo. The middle line, with the adjacent part of the occipital squama, is depressed, as in many Eskimo, to form a wide shallow groove, which is just visible in this norma.

The intertemporal space is fairly narrow: the superior temporal lines make their closest approach to each other, as Virchow observed in the Eskimo skull, not in the region of the parietal eminences, but just behind the coronal suture (Fig. 1, *a*, *t t*). They are continued backwards as far as the lambdoidal suture, and after a slight divergence again draw nearer the middle line. This feature may also be observed in the Eskimo skull.

Sir Arthur Keith has put the question: "How do we know that the Chancelade skull is not that of an Eskimo?" and replies that, "In the first place . . . the temporal muscles in the Eskimo have extended their origin over and beyond the parietal eminences to an extent unknown in other modern races, or in any breed of fossil man. The Chancelade skull shows no such extension."[1] This, however, is only one out of numerous statements, made by this distinguished author, which stand in direct contradiction to the facts.

The extension of the temporal muscles may be represented by figures in more than one way. The most usual is to give the distance by which the superior temporal lines fail to reach the sagittal line at their point of nearest approach.

Selecting at random six Eskimo skulls from our University collection, I find that this distance, as measured by the tape, ranges from 40 mm. to 50 mm., with a mean of 45 mm. Judged from the cast, the Chancelade skull agrees with the mean.[2] But a more instructive method, as it seems to me, would be to compare the distance from the origin to the insertion of the muscle, if this were possible; or, failing this, from the origin to a fixed point. The porion, though no more fixed than any other point in the skull, might serve the purpose.

Taking such measurements, I find with the tape a range of from 106·5 mm. to 118·5 mm. in the six Eskimo skulls, with a mean of 114·7 mm., and for the Chancelade skull, measured on the cast, 120 mm.[3]

Let us pass now from the point of closest approach of the superior temporal lines to their extension "over and beyond the parietal eminences," where they become more remote. Taking first the extension *over* the eminences, we find for seven Eskimo skulls an interval of 45 mm. to 65 mm. between the temporal lines and the sagittal line, with a mean of 57·3 mm. In the Chancelade skull this distance is 60 mm. The extension *beyond*, both in the Eskimo and the Chancelade skull, brings the lines into close proximity with the lambdoidal suture.

Thus, the superior temporal lines afford a conclusive answer to the question proposed. I do not infer from this that the Chancelade was an Eskimo's skull, but simply that we are now provided with an important character which must be added to an already numerous assemblage of others all pointing in this direction.

We have already mentioned that a part of the sinciput in the neighbourhood of the bregma is missing. Testut placed the bregma on the anterior margin of the fracture which defines the missing part, but before I was aware of this I had assumed it to lie 6 mm. behind this point, and on consulting a colleague, he thought that this was as near the truth as we could hope to get.

[1] *Man*, 1925, xxv, p. 188.

[2] Testut gives 54 mm. (left) and 55 mm. (right) as the distance of the "double ligne temporale" from the "suture sagittale," but the suture is absent at the point of their nearest approach.

[3] If we take Testut's measurements as our basis, this value is reduced to 110 mm.

Deeply impressed by the exactitude of Testut's observations, I was led to make a re-examination of the original skull in the hope of finding some indications of the presence of the bregma, but beyond some impressions which might have been made by organisms, I saw nothing to suggest its existence. The measurements given in table (pp. 117–18) are based on the position of the bregma I originally assigned to it.

Norma Lateralis. (Figs. 2 and 3.)

The profile is best represented by a sagittal section (Fig. 2): it closely resembles that of the Eskimo. The forehead is high, the glabella only moderately developed—not more so than in some Eskimos—and the gently curved summit passes into an almost straight posterior region (obelion plane).

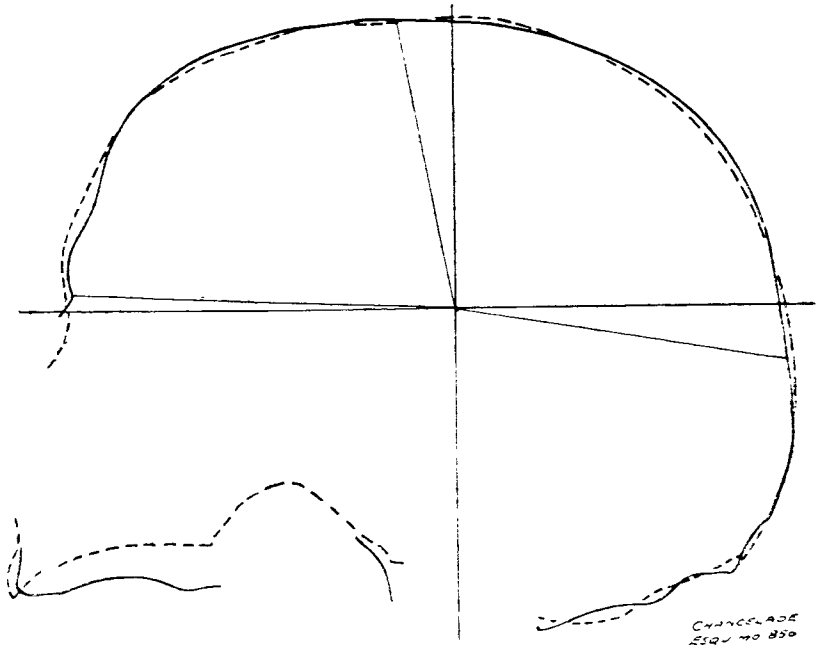


FIG. 2.—SAGITTAL SECTIONS OF CHANCELADE SKULL (CONTINUOUS LINE) AND AN ESKIMO SKULL (DOTTED LINE), SUPERPOSED ON A COMMON CENTRE AND THE FORAMINO-CENTRAL AXIS.

The face is harmonious with the skull, and the mandible seems to project a little too far beyond the incisorial alveoli of the maxilla, as it does in many Eskimo. It is difficult, however, to arrive at a certain conclusion on this point, owing to the absence of the upper incisors, and it is just possible that a slight error may have been made in the restoration. The lower half of the upper jaw with the palate was completely broken off when it was in Testut's hands, and a wide gap, now filled with plaster, separates the two parts from one another. Thus, measurements depending on the prosthion may be uncertain within the limits of a few millimetres.

The index of the frontal curvature $\frac{\text{chord } \nu - \beta \times 100}{\text{curve } \nu - \beta}$ is 87·5; its mean value in the Eskimo is $87{\cdot}01 \pm 0{\cdot}11$. There is not so complete a correspondence, however, in the frontal-parietal index of curvature which, taking the bregma in the position I have assigned to it, is found to be 103·7; but though the mean for the Eskimo is $97{\cdot}51 \pm 0{\cdot}35$, the standard deviation amounts to $6{\cdot}22 \pm 0{\cdot}25$. The Chancelade index is thus well within the limit, and it may be added that an index of from 100 to 104 is met with in 29·6 per cent. of the Eskimo skulls examined by Fürst and Hansen.

The calvarial height (107 mm.) is, as in the Eskimo (100·1 mm.), high: the calvarial index (56), on the other hand, is low, and this also is true of the Eskimo (55·14).

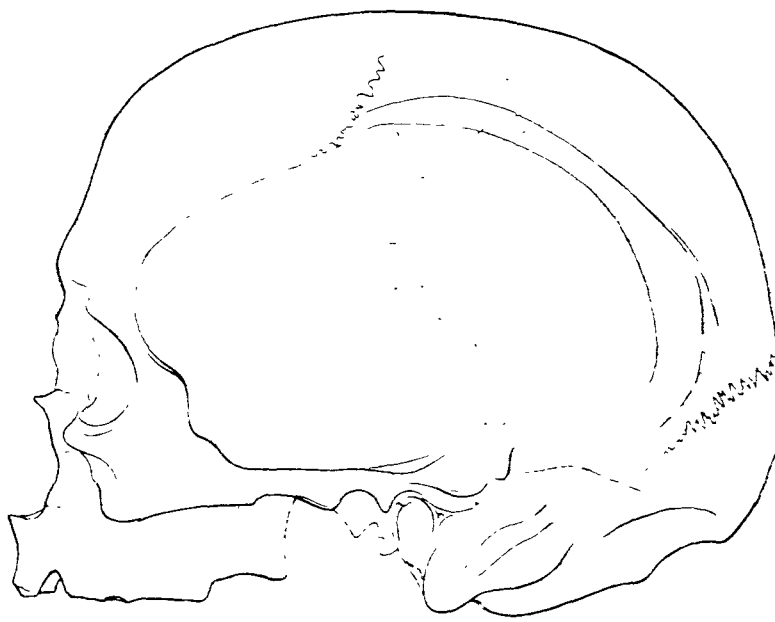


FIG. 3.—CHANCELADE SKULL. *Norma lateralis.*
THE MISSING PARTS ARE INDICATED BY DOTTED LINES.

The basal angle, that included between the $\nu - \beta$ line and the trace of the Frankfurt plane, is 28°: in the Eskimo it is $28{\cdot}08° \pm 0{\cdot}19$.

In the temporal fossa the wall of the skull bulges out, just below the temporal line, in high relief, as it not seldom does in the Eskimo (temporal facet).

The ali-squamous suture is remarkably straight: Parsons has noticed that this suture is much straighter in Eskimo than in other skulls.

The mastoid processes are not small, as they usually are in the Eskimo, but, as Testut states, remarkably well developed. The size of these processes varies, however, greatly with the individual: some of the Eskimo skulls in our University collection

approach the Chancelade skull in this feature, and Cameron,[1] in his account of the Copper Eskimo, describes the mastoid processes as "strongly developed."

The glenoid fossæ of the Eskimos are characteristically shallow: Cameron and Knowles[2] have drawn attention to this feature, and have illustrated it by a number of sagittal sections.[3] In the Chancelade skull these fossæ cannot be described as shallow, but they are broad, and the slope of their anterior wall is comparatively gentle. A transverse section of the fossa of the left side (Fig. 4) closely resembles one of those given by Cameron. The resemblance of the fossa to that of the Eskimo is increased by the extension of the articular surface over the eminentia.

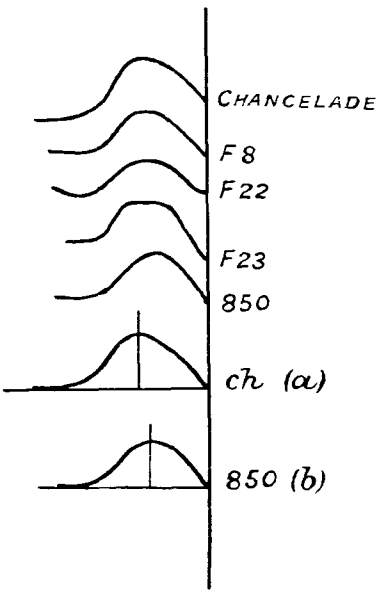


FIG. 4.—SAGITTAL SECTION OF THE LEFT GLENOID FOSSA OF THE CHANCELADE SKULL COMPARED WITH CORRESPONDING SECTIONS OF SOME ESKIMO SKULLS. THE VERTICAL LINE GIVES THE POSITION OF THE GLASSERIAN FISSURE. CH. CHANCELADE; F 8, F 22, F 23, ESKIMO SKULLS FROM ALASKA (AFTER CAMERON); 850, GREENLAND SKULL IN THE UNIVERSITY COLLECTION, OXFORD. NAT. SIZE. CH. (*a*) AND 850 (*b*) SHOW HOW MEASUREMENTS WERE TAKEN OF THE LENGTH AND DEPTH OF THE FOSSA. THEY GAVE FOR CHANCELADE A LENGTH OF 20·5 MM., AND A DEPTH OF 7·5 MM.; FOR 850 THE CORRESPONDING MEASUREMENTS ARE 18 MM. AND 6·5 MM.

The external process of the tympanic plate, which presents so marked a development in the Eskimo, has been to a great extent destroyed in the Chancelade skull, so that the posterior surface of the posterior glenoid apophysis on both sides is now almost completely exposed and bare.

[1] John Cameron, M.D., "Osteology of the Western and Central Eskimos," *Report of the Canadian Arctic Expedition*, 1913–18, xii. *The Copper Eskimo*, part 3, p. C 39.

[2] F. H. S. Knowles, "The Glenoid Fossa in the Skull of the Eskimo," *Canadian Geological Survey, Mus. Bull. No. 9; Anthropological Series*, No. 4, pp. 1–13, 1 pl.

[3] J. Cameron, *loc. cit.*, pl. IX, fig. F 22.

Knowles,[1] in his study of the glenoid fossa in the Eskimo, speaks of its characteristic appearance as "largely due to a rolling out in a forward and outward direction of the eminentia articularis." This "rolling out" is to be seen in the Chancelade skull, but, as in many Eskimos, only in the forward, not the outward, direction.

Hooton,[2] who is much impressed by the thickness of the tympanic plate which is so characteristic of the Eskimo, remarks that the posterior-glenoid process is absent in this race; but this is certainly not true of the Greenland Eskimo, among whom it is frequently strongly developed. Hooton also discusses Angelotti's[3] four different types of the tympanic plate: he reduces these to three, of which the first coincides with Angelotti's first. It is to this that he assigns, quite rightly, the Eskimo. In its present state the Chancelade skull presents none of the characters of the Eskimo type.

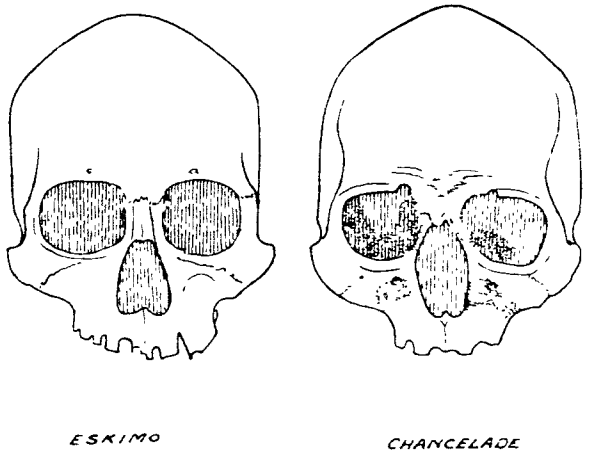


FIG. 5.—*Norma Facialis.* ESKIMO AND CHANCELADE SKULLS. THE DOTTED AREA OF THE CHANCELADE SKULL REPRESENTS PLASTER.



FIG. 6.—SAGITTAL SECTION THROUGH RIGHT ORBIT. (× ½)

Norma Facialis (Fig. 5) *and Vertical Transverse Section* (Fig. 8).

This is characteristically Eskimo, the angulated roof, narrow forehead, broad zygomatic arches, high orbits, long and narrow nasal openings combine in harmonious testimony to this comparison. The superciliary ridges are poorly developed, and are separated from the lateral triangular part of the supra-orbital region (trigonum supraorbitale) by a shallow sulcus which runs obliquely upwards and outwards

[1] F. H. S. Knowles, "The Glenoid Fossa in the Skull of the Eskimo," *Canadian Geological Survey, Mus. Bull. No. 9: Anthropological Series*, No. 4, 1915, p. 2.

[2] E. A. Hooton, "On Certain Eskimoid Characters in Icelandic Skulls," *Amer. Journ. Phys. Anthrop.*, 1918, p. 53 *et seq.*

[3] G. Angelotti, "Variazioni e lacune nella 'pars tympanica' del temporale," *Atti d. Soc. Romana di Antrop.*, 1909, xv, p. 35 *et seq.*

from the supra-orbital notch. The trigonum has a fairly thin margin (but thicker than in most Eskimo), which is directed forwards.

The infra-orbital suture is not closed, and thus furnishes another point of resemblance to the Eskimo's skull, for, as Fürst and Hansen remark, "It is especially characteristic of the Eskimo cranium that the infra-orbital suture remains open."[1]

Concerning the orbits, Testut's account (p. 15) leaves nothing to add, except that the supra-orbital foramina are not complete as usual in the Eskimo, but represented by open notches: but this is also true of many Eskimo skulls. It may also be remarked that the upper and lower orbital margins are slightly more thickened than in the Eskimo. (Fig. 6.)

Some supplementary remarks on the nasal region must be made here, since it has been asserted that "the inter-orbital septum, which really forms part of the nose, and the configuration of all the parts round the margin, have no resemblance to the same parts in the Eskimo, but are in every respect European."

Unfortunately, the inter-orbital septum has not been preserved in the Chancelade skull; it has disappeared, and left no trace behind.

The anterior nasal spine is present, as in the Eskimo, but the margin of the nasal aperture has shared to a large extent the fate of the nasal bones. In its present state this part of the skull affords no evidence in favour of an Eskimo configuration.

In most Eskimo skulls the lower margin of the aperture is marked by a more or less well-developed prenasal fossa and in no way resembles the thin but broken walls of the Chancelade skull.

The breadth of the zygomatic arch "at its anterior part" is a matter of great importance, and has been instanced by Sir Arthur Keith as one of the prominent features by which the Chancelade is distinguished from the Eskimo skull.[2] This is a question which demands treatment by measurements, and it is to them we must appeal. Sir Arthur Keith defines the breadth of the face as the distance between the lower ends of the malo-maxillary sutures. This is the measurement chosen by Virchow. Sir Arthur Keith then states that in the Eskimo skull this width may exceed 130 mm.,[3] and gives as the mean for 20 male skulls in the College of Surgeons 107 mm.

Calculating from the data given by Furst and Hansen, I obtain a mean for 188 male Eskimo skulls of 102·65 mm., while Fürst and Hansen obtain for 352 skulls, male and female, a mean of 100·2 mm. The range for the male skulls is from 89 mm. to 119 mm.; plotted for frequency they give a curve with two peaks, one at 100 mm. (18 skulls) and 101 mm. (19 skulls), and the other at 104 mm. (19 skulls).

[1] Furst and Hansen, *op. cit.*, p. 175.

[2] *Man*, xxv, p. 188, 1925.

[3] This is about the mean (136 mm.) for the bizygomatic breadth of the Greenland skulls; in the Chancelade skull we have 140 mm.

The breadth in the Chancelade skull is 99·6 mm. It thus lies close to the first peak and in this feature is characteristically Eskimo.

The resemblance of the facial curve of the Chancelade skull to that of the Eskimo, and its difference from that of a Swede, is shown by comparison in Fig. 7.

The chin is well developed. Testut describes it as broad, an Eskimo character: "seemed to me rather pointed, and, though pointed chins do occur among the Eskimo, I readily conform to the opinion of an anatomist so much more experienced in these matters than myself.

Here we may conveniently introduce some figures to illustrate transverse sections through the skull. In Fig. 8 a section of the Chancelade skull, taken through the posterior third of the occipital condyles, round the mastoid processes and across the region of the sagittal suture, 27 mm. behind the bregma, is shown superposed for comparison upon a similar section of an Eskimo skull. The resemblance is so close as to require no pointing out. We might, indeed, venture to assert that in some of its most important characters the Chancelade skull out-Eskimos the Eskimo.

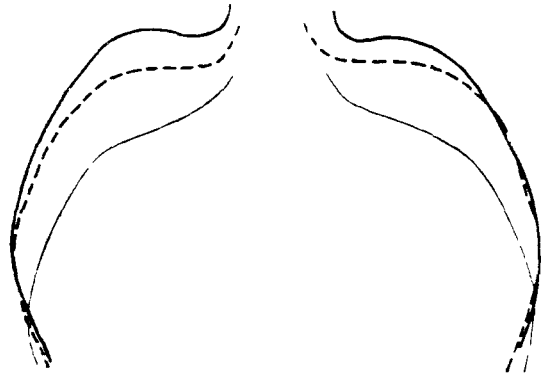


FIG. 7.—FACIAL CURVES: CHANCELADE SKULL, THICK CONTINUOUS LINE; ESKIMO, BROKEN LINE: SWEDE, THIN CONTINUOUS LINE. (× ½.)

For comparison, or rather contrast, a similar section of the Chancelade skull is superposed upon one of the Cro-Magnon skull. (Fig. 9.)

Norma Basilaris.

The palate has been fully described by Testut, who, after pointing out that its outline is elliptical rather than parabolic, gives its length as 53 mm., its breadth as 36 mm., and hence finds for its index 67·92.[1] In a table of measurements given later,[2] the same dimensions are repeated for the length and breadth.

Sir Arthur Keith, however, writes as follows:—"Professor Testut estimated that the chewing palate—the area included within the outer margin of the upper teeth—was 51 mm. from front to back . . . and 60 mm. in width at the points

[1] Testut, *op. cit.*, p. 35. [2] *Ibid.*, p. 40.

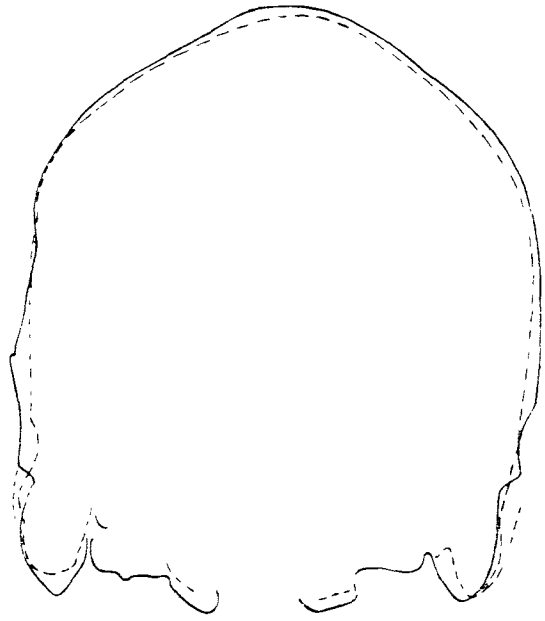


FIG. 8.—A NEARLY VERTICAL TRANSVERSE SECTION THROUGH THE CHANCELADE SKULL (CONTINUOUS LINE), AND, SUPERPOSED ON A COMMON CENTRE, A SIMILAR SECTION OF AN ESKIMO SKULL (BROKEN LINE). ($< \frac{1}{2}$.)

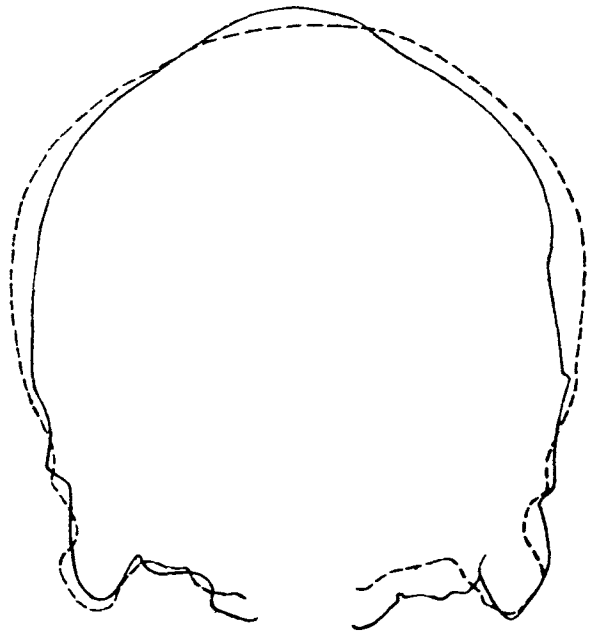


FIG. 9.—SIMILAR TO FIG. 8, BUT WITH THE SECTION OF AN ESKIMO SKULL REPLACED BY ONE OF THE CRÔ-MAGNON SKULL (BROKEN LINE). ($\frac{1}{2}$.)

where the second upper molars had been implanted."[1] I can find no reference in Testut to any measurement taken from the outer margin of the teeth (it is not usual to measure the breadth of the palate in this way); no such number as 60 mm. appears in Testut's memoir, and 51 mm. should evidently be 53 mm.

The conclusion drawn by Sir Arthur Keith from his own statement is that, "as regards size and shape, the palate of Chancelade man falls easily within the modern range of measurements."

Testut, however, did not fail to recognize that a leptostaphyline index is one of the distinguishing characters of the Eskimo.

The wide zygomatic arches and the glenoid fossa present a striking resemblance, as seen in this norma, to those of the Eskimo.

The nuchal part of the occipital bone is sharply defined from the upper part by a curvilinear ridge corresponding with the linea nuchæ suprema, which continues on each side from the inion to the mastoid and laboidal suture. The curious asymmetry, which, as Fürst and Hansen remark, is so frequently exhibited in the norma basilaris of Eskimo skulls, is also visible here.

The longitudinal palatine torus has been regarded as a racial character: it is probably adaptive, but is certainly inherited.[2] Yet, though very common among the Eskimo, it is not constant; it has been recorded as absent in 23·3 per cent. of that race,[3] nor is it by any means confined to them. Thus it occurs among the Fuegians[4] in each of 16 skulls examined; the Australians (3), 72 per cent.: Icelanders (2), 60 per cent.: Italians (2), 52 per cent.: South Californian Indians (2), Papuans (3), and French (4): in all these less than 36 per cent. It is also present in the skull of the "Old Man of Crô-Magnon."

Norma Occipitalis.

The pentagonal outline is obvious; the sloping sides of the roof extend as far as the parietal eminences, which are not strongly pronounced; thence the sides of the skull descend steeply, on the right in a perpendicular plane, on the left, which is better filled, in a slightly convex curve.

The obelion plane is well marked, and in conjunction with the sloping sides of the roof produces the peculiar peak-like form which distinguishes some Eskimo skulls. Where the plane ends, just below the lambda, the shallow median depression, which follows the median sagittal line of the occipital bone, begins and deepens as it approaches the inion.

Sir Arthur Keith has remarked on the presence of this plane as suggestive of brachycephalic influences. I do not think there is any necessary connection, and in any case it is a remarkably constant feature of the Eskimo skull.

[1] Keith, *The Antiquity of Man*, 2nd ed., p. 86.

[2] W. L. H. Duckworth and B. H. Pain, *Journ. Roy. Anthrop. Inst.*, 1900, xxx.

[3] E. A. Hooton, *loc. cit.*

[4] Alberto Cocchi, *Arch. per l'Antr. e la Etnol.*, 1892, xxii, p. 289. *See* also R. Martin, *Lehrbuch d. Anthropologie*, Jena, 1914, p. 832.

The Mandible.

A direct comparison of the mandible with that of the Eskimo, as represented by the examples in our University collections, reveals a remarkably close resemblance both in form and dimensions. The bicondylar width measures 118 mm., and thus lies within the limits obtained by Fürst and Hansen for the Eskimo: at the same time, it falls nearly 5 mm. short of the mean. That it has not been diminished by compression is shown by the perfect adaptation of the condyles to the glenoid fossæ.

The biangular width is evidently abnormal, and does not harmonize with the bicondylar. Thus, judging from the ratio of the means for the two widths given by Fürst and Hansen $\frac{109 \cdot 7}{122 \cdot 85}$, for the Eskimo the biangular width should be 105·4 mm., while actually it is only 93 mm. as measured by Testut. But my measurement on

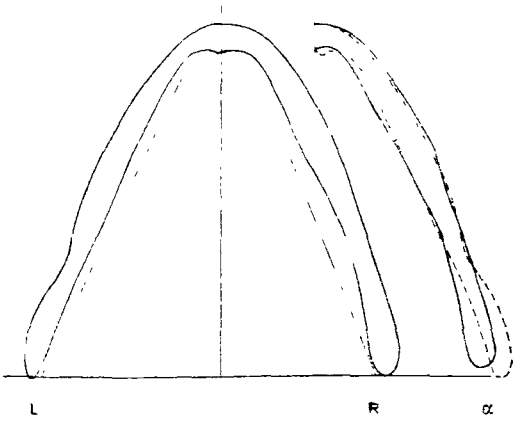


FIG. 10.—OUTLINE OF THE BASE OF THE MANDIBLE.
L. LEFT. R. RIGHT SIDE. α. THE TWO BRANCHES SUPERPOSED.

the cast gives as much as 102 mm., so that there is some uncertainty on this point. I do not think the true value can be far short of 100 mm.

There is, further, a marked asymmetry of the jaw which calls for further consideration. A mere inspection when the jaw rests on a flat surface is sufficient to show that the right half differs in form and attitude from the left: the precise nature of the difference may be exhibited in the following way:—

In the first place, the jaw is rested on a plane surface of plasticine and pressed gently down so as to produce an impression of its base (Fig. 10). The curvature of the base on the right side in a horizontal plane is thus rendered visible, particularly when, as in Fig. 10, α, the two sides of the outline are superposed by folding over, the middle line being used as a hinge. The gonion of the right side is found to approach nearer than the left to the middle line.

Next, a rectangular bar, 7 mm. thick, and provided with a pointer fixed at right angles to its edge, is brought into contact with the posterior angle, *i.e.* near

the gonia, and slid sideways till the end of the pointer corresponds with a point in the middle line of the interior curve behind the chin. On measuring along the bar the distance of the outer margin of the jaw from the pointer, it is found that the right side is as much as 9 mm. or 10 mm. nearer the middle line than the left.

Finally, two upright rods, standing vertical to the plane on which the jaw rests, are brought into contact with the ascending rami in corresponding positions, first on the outside and then on the inside of the jaw. (Figs. 11 and 12.)

On the outside (Fig. 11) the rod on the right touches the upper margin of the corresponding ramus, but fails to reach the lower margin by 2 mm.; while that on the left touches the lower margin of the left ramus, but is 3·5 mm. remote from the upper margin.

On the inside (Fig. 12) the relations are reversed: the rod on the right touches the lower margin and is 4 mm. distant from the upper; that on the left touches the upper margin and is 3 mm. distant from the upper.

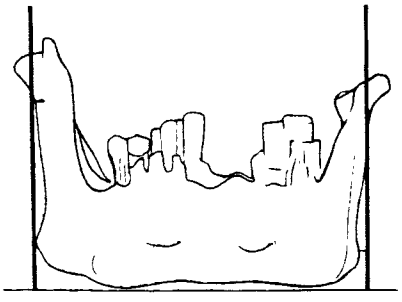


FIG. 11.

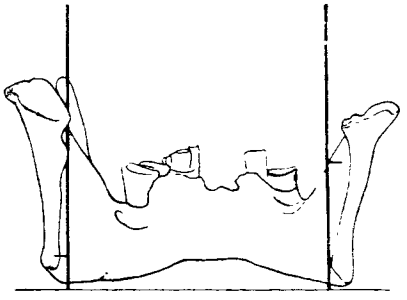


FIG. 12.

(THE SHORT HORIZONTAL LINES PROCEEDING FROM THE VERTICAL RODS MEASURE THE DISTANCE OF THE LATTER FROM CONTACT WITH THE JAW. (× ½.))

It should be noticed also that the base of the right ramus is in contact with the plane on which the jaw rests, both near the gonion and below the region of the 2nd and 3rd molars, while the left is only in contact below the molars, and rises backwards, till at the gonion it attains a height of 5 mm. above the plane below.

The jaw is deformed, and in its original state the biangular width may have been 100 mm.—as even Sir Arthur Keith admits—or, as I believe, even more.

Its mean value among the Eskimos, as given by Furst and Hansen, is 109·7 mm., with a range of from 94 mm. to 130 mm. for male adults: but of the 133 jaws measured by them, no less than 32, or 24 per cent., range from 95 mm. to 105 mm., and of these, 13 range from 94 mm. to 103 mm. There is therefore nothing in this feature to exclude the Chancelade skull from the Eskimo lineage.

It is not necessary to discuss the cause of the deformation of the jaw, since

Testut many years ago proposed a valid explanation (*see* pp. 98. 99), and the opinion of this experienced anatomist cannot be lightly disregarded.[1]

A peculiarity, already noticed by Testut, which the Chancelade skull shares with some of the Eskimo is the remarkably wide interval which lies between the back of the 3rd molars in the lower jaw and the front of the ascending ramus, or, in other words, the extension backwards of the alveolar margin, which affords in some instances almost sufficient room for an additional molar. The mandibular torus is a remarkable outgrowth: it extends as an irregularly swollen ridge from the 1st premolar to the 3rd molar, a distance of 42 mm., with a maximum breadth of 7 mm. and a maximum height of 10 mm. to 11 mm. (Fig. 13). It is a rather more

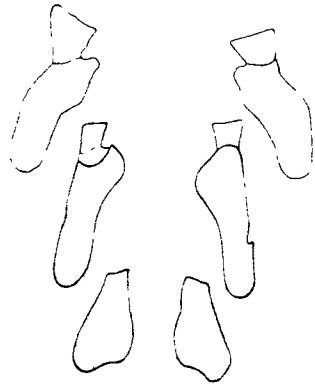


FIG. 13.—SECTIONS THROUGH THE MANDIBLE. UPPER PAIR, TRANSVERSE SECTIONS THROUGH THE RAMUS AND THIRD MOLARS. MIDDLE PAIR, THROUGH THE RAMUS AND SECOND PREMOLARS. BOTH PAIRS SHOW THE EXCESSIVE DEVELOPMENT OF THE MANDIBULAR TORUS. LOWEST PAIR, SAGITTAL SECTION THROUGH THE SYMPHYSIS. ($\times \frac{1}{2}$.)

distinctive character than the palatine torus: thus it has been observed[2] in 87·1 per cent. of the Eskimo and 67·97 per cent. of the Icelanders, but only in 4·3 per cent. of the South Californian Islanders and 3·3 per cent. of Italians.

The Dentition.

It has long been noticed as an interesting peculiarity of the Eskimo dentition that the worn surface of the 3rd molars is frequently inclined downwards, sometimes steeply, from without inwards in the lower jaw and in the reverse direction in the upper, so that the latter appear to be more worn on the outer side and the former on the inner or lingual side. This peculiarity is well displayed by the 3rd lower molars of the Chancelade mandible.

[1] On this matter, Sir Arthur Keith has remarked: "My daily vocation has given me some experience in such matters, and I can assure Professor Sollas [should it not be Testut?] that his explanation is quite wrong." *Man.* xxv, 1925, p. 188.

[2] E. A. Hooton, *loc. cit.*

It is generally supposed that this feature is due to some unusual method of mastication and the result of attrition, but an examination of unworn molars in young skulls is sufficient to show that this is not the immediate cause, for the slope of the crown is pre-existent and sometimes no less marked in the unworn than in the worn tooth. The slope of the lower molars would seem to be connected with the outward downward slope of the horizontal ramus of the mandible, as is well shown in a section of a young jaw (Fig. 14). The pressure acting upon teeth so inclined might lead to a subsequent displacement with exaggeration of the slope. Duckworth,[1] who has made an important study of this subject, considers that a tilting or dislocation does actually occur, so that eventually the abraded area extends far over on to the side of the root.



FIG. 14.—TRANSVERSE SECTION THROUGH THE MANDIBLE AND THIRD MOLARS OF A YOUTHFUL ESKIMO. (× ½.)

It seems possible that the torus may arise as a reaction to the pressure on the lingual side of the ramus and serve as an opposing buttress.

The outer roots of the 2nd left molar in the Chancelade skull are exposed and bare, and the outer wall of the alveolus appears to have been completely absorbed.

The right canine and 1st premolar of the mandible are much worn, and their abraded surfaces slope steeply outwards and downwards. The 2nd left premolar, the left canine, and both premolars, on the other hand, are worn flat, but to different degrees. These irregularities combine with the previous evidence to suggest that the almost fatal accident recorded in the skull may have impaired in more than one way the function of mastication.

As a conclusion to this part of our comparative study, we may make use of the "Synopsis of the Anthropological Characters that distinguish the Greenland Eskimo Cranium" given by Fürst and Hansen in their great monograph.

Distinctive Characters which the Eskimo and the Chancelade[2] *Cranium possess in common.*

1. Dolichocephalic, not seldom (25 per cent.) hyperdolichocephalic. (Ch., dolichocephalic.)
2. A considerable median crest which may begin on the frontal bone and extend as far as the vertex.

[1] Duckworth and Pain, *loc. cit.*

[2] Indicated by "Ch." in the annotations.

3. Orthocephalic, often (38 per cent.) hypsistencephalic. (Ch., hypsistencephalic.)
4. Acrocephalic or stenocranic.
5. Occipital squama bulging into a tuber occipitale.
6. Forehead small, but, in proportion to the length, broad: predominantly megaseme, often (43 per cent.) mesoseme. (Ch., mesoseme.)
7. Calvarial-height index low, but calvarial height not low.
8. Temporal lines high, enclose a considerable planum temporale.
9. Cranial capacity great.
10. Forehead high, judged by $\gamma\nu\iota$ angle, but low by frontal-curvature index.
11. Glabella and arcus supraorbitalis usually insignificant.
12. Supra-orbital margin bent outwards: possesses almost constantly a foramen supraorbitale. (Ch., supra-orbital foramen open below.)
13. Orbital openings large and high, usually quadrilateral. Hypsiconch. (Ch., orbital index a little above the mean.)
14. Cranium is mesoprosopic with a tendency to leptoprosopy, whether reckoned by the facial or upper-facial index. (Ch., leptoprosopic.)
15. Zygomatic arches bent strongly outwards, with maxillary process of the zygoma, which has a broad and powerful lower surface.
16. Processus marginales usually strongly developed.
17. Infra-orbital sutures usually open, not seldom connecting infra-orbital foramina with smaller accessory foramina. (Ch., no accessory foramina.)
18. Nasal bones greatly reduced, crowded, forming a wedge-like projection.
19. Nose strongly leptorrhine.
20. Palate leptostaphyline.
21. Palatal torus very commonly present.
22. Meso- and orthognathic. (Ch., orthognathic.)
23. Alveolar portion of maxilla is high.
24. Mandible is broad and very high.
25. Mandibular ramus of enormous breadth.
26. Alveolar processes of mandible broad.
27. Mandibular torus present almost constantly; may attain an enormous development.
28. Teeth strongly worn, not seldom even in young skulls.

Doubtful or Differing Characters.

1. Mastoid process small. (Ch., unusually large.)
2. Tympanic bones large. (Ch., also large, but no evidence that they were thick.)
3. Frontal sagittal curve usually longer than parietal. Sagittal circumference large. (Ch., the parietal is longer than the frontal curve: but this is true of many Eskimo also.)

4. Nasion scarcely inset and little marked. (Ch., only slightly inset, not more than in many Eskimo.)
5. The lambdoidal suture and so much of the sagittal as is preserved are not simple as in the Eskimo, but very complex.

In the following tables of measurements and indices the numbers in the first column give the means obtained by Fürst and Hansen from the measurements of a large number of Greenland Eskimo skulls, and as well the indices based on these measurements.

The second column gives the values of the corresponding measurements of the Chancelade skull. These are almost all taken from Testut; the exceptions are measurements obtained by me from the cast of the skull and are distinguished by enclosing brackets.

Whenever the values given by the Chancelade skull differ greatly from the Eskimo mean, the nearest limit, plus or minus, to the range of variation in the Eskimo is indicated in the third column.

The following symbols have been used throughout:—b, basion; β, bregma; λ, lambda; γ, glabella; ι, inion; m, mentum; ν, nasion; *oπ*, opisthion; πρ, prosthenion; Fr., frontal; Pa., parietal.

Cranium.

——	Eskimo Mean.	Chancelade.	Eskimo Limit.
Capacity	1526·83	1710	1918
Length.			
Maximum	185·37	193	202
γ — ι	179·89	190	202
ν — ι	174·91	(186)	194
ν — β	112·55	115	
β — ι	152·65	(165)	168
β — ν	105·90	115	118
Breadth.			
Maximum	133·19	139	149
Minimum Fr.	94·43	101	111
Maximum Fr.	107·68	111[1]	123
Height.			
b — Pa.	137·36	(152)	151
b — β	136·46	150	149
Auricular	118·78	(124)	132
Calvarial	100·09	(113)	115
Circumference.			
Horizontal...	516·08	(546)	559
Sagittal	374·09	391	414
Transverse	310·38	(322)	335

[1] This is the Stephanian maximum.

CRANIUM—*continued.*

——	Eskimo Mean.	Chancelade.	Eskimo Limit.
Curves.			
$\nu - \beta$	128·69	136	145
$\beta - \lambda$	125·94	141	144
$\lambda - o\tau$	119·42	114	104
Angles.			
Basal	27·98°	(28·5°)	
$\zeta.\nu.a.$	59·90°	61·0°	
$\nu.\beta.a.$	81·30°	80·0°	
$\zeta.a.\nu.$	39·27°	39·0°	
$\zeta.\nu.b.$	78·10°	82·0°	
$\nu.b.\zeta$	54·00°	51·0°	
$\nu.\zeta.b$	47·90°	47·5°	
Indices.			
Length-breadth	71·9	72·02	
Length-height	73·63	77·70	81
Breadth-height	102·78	107·90	114
Auricular breadth-height ...	64·08	64·25	
Calvarial height	55·14	(61·6)	65
Pa.-Fr. breadth	70·47	66·9	60
Frontal curve	87·01	87·7	
Fr.-Pa. curve	97·52	(103·7)	110

FACE.

Height.			
ν — m	119·20	(120)	
$\nu - \pi\rho$	73·02	(76)	
Breadth.			
Bizygomatic	136·18	140	154
Maxillary	102·65	99·6	89
Nasal.			
Height	52·47	61	66
Breadth	22·73	26	27
Orbits.			
Height	35·89	33	34
Breadth	42·13	38	38
Palate.			
Length	55·49	53	
Breadth	40·24	36	31
Length.			
$b - \pi\rho$	103·18	(99)	
Breadth.			
Inter-orbital	21·67	21	
Orbito-facial	97·40	93	

Face—*continued.*

	Eskimo Mean.	Chancelade.	Eskimo Limit.
Angles.			
b.ν.$\pi\rho$	68·73°	(58°)	60°
ν.b.$\pi\rho$	41·62°	(42°)	
ν.$\pi\rho$.b	69·65°	(80°)	78° (81°)
Facial	83·40°	(92°) ?	(95°)
Indices.			
Flowers	99·06	(88·3)	85
Facial	87·15	(84·4)	73
Upper facial	53·13	54·3	
Nasal	42·99	42·5	
Orbital	85·04	86·97	
Inter-orbita	21·85	22·58	
Palatal	72·21	67·92	

Mandible.

Breadth.			
Bicondylar	122·85	118	106
Biangular	109·70	93	93
Height.			
Mental	33·57	41	45
Ramus.			
Height	61·28	73	77
Breadth	39·95	43	51
Length.			
Condylo-protuberal	125·91	113	112
Angle.			
Mandibular	124·40°	114°	100°
Protuberal...	58·51°	56°	52°

I think it will be generally admitted, on reviewing the evidence, that the assemblage of characters presented on the one hand by the Chancelade skull, and on the other by the Eskimo, are in very remarkable agreement, and that the onus of discovering a similar assemblage, but possessed by some other race, rests with those who refuse to accept what seems to me a very obvious conclusion.

We have, however, still to consider the position maintained by some of my friends who, while fully recognizing the close resemblance of the Chancelade skull to that of the Eskimo, yet hesitate to admit the former to the Eskimo circle, on the ground that its characters have been acquired by adaptation.

But few will be prepared to deny that Chancelade man was, in a sense, the creature of his environment: so, however, is the Eskimo, and the environment—climatic

and faunistic—by which each was moulded is well known to us. It extended in a wide belt from Western Europe eastwards through Asia into North America and across that continent. The climate over this region was the same throughout, the fauna was the same and it was hunted by men, with similar weapons, who led much the same kind of life as the existing Eskimo.

Turning aside for a moment from the question of human races, let us select any one of the other animals of the Magdalenian fauna and see how the argument of adaptation may be consistently applied to it. We may take the musk ox as an example, an animal which now survives in the most northerly parts of Greenland, and supplies the Eskimo with the meat he most esteems.

In the Old World this animal no longer exists, but it was a European contemporary of Chancelade man: its bones have been found as far south as Dordogne and not far from the famous Chancelade remains.

The musk ox owes its characters, no doubt, to adaptation, but no one has yet ventured to suggest that this affords a sufficient reason for distinguishing the musk ox of Dordogne from its existing representatives in Greenland.

The bones of Chancelade, however, resemble those of the existing Eskimo as closely as those of the French musk ox resemble those of the Greenland musk ox, and are not separated in space by so wide an interval. The Eskimo extend from Greenland eastwards along the whole coast of the North American continent, and cross the Behring Sea to continue eastwards over the Tchuktchi peninsula, where, in addition to the Asiatic Eskimo recognized by Dr. Hrdlička[1] on its easternmost headlands, there are, or were, others in the interior which Dr. George Montandon[2] has shown to be genuine Eskimo, resembling in some of their characters the eastern more closely than the western Eskimo. Dr. Montandon is further of opinion that at one time the Eskimo occupied the whole of this peninsula.

Beyond this we lose sight of them over a wide stretch of country, mostly unexplored: but, though unrepresented by bodily remains until we reach Dordogne, they have left some indication of their presence in the heart of Asia as far west as Tibet. This is afforded by their language, which, though for long regarded as unique, without any affiliation to other tongues, has lately been brought into connection by A. Sauvageot with Finno-ugrian. Consistent with this a similar connection has been found by Sapir between the language of the North American Na-Dene people and Sino-tibetan.[3]

Now let us return to the Magdalenian Age, when the colder zones of the north, with their associated fauna, lay far south of their present position, and the land, at

[1] A. Hrdlička, *Proc. U.S. Nat. Mus.*, 1924, vol. 63, fasc. 12, pp. 1–51 (in particular, p. 26).

[2] G. Montandon, "Craniologie Paléosibérienne," *L'Anthropologie*, 1926, t. xxxvi, pp. 209–96 résumé, p. 272.

[3] Cited by P. Rivet, "Le Peuplement de l'Amérique pré-Colombienne," *Scientia*, 1926 p. 92.

present inhabited by the Eskimo, was overwhelmed by snow and ice. The Eskimo fauna and its hunters were certainly at that time distributed over an area which included France and England.

The Magdalenian Age came to a close with a marked amelioration of climate: the colder zones retreated towards the north, the flora followed them, and with the flora the fauna which depended on it. Is it probable that the hunters, who lived upon the fauna, alone remained behind?

In his primitive state as a hunter, man shares with the lower animals a close attachment to his environment: it is his inheritance, and he is better adapted to it than to any other. His tribe has gained by long experience a remarkably full and exact knowledge of the habits and mode of life of the animals which form a most important part of it, and on these animals he depends for food. To acquire this knowledge, every member of the tribe is trained by precept and practice from his earliest years. It is a compulsory education of the most searching kind; none can escape from it and live.

Thus constrained by a powerful *vis a fronte*, the hunters would almost certainly follow the game they knew. And not only drawn by a *vis a fronte*, but impelled by a *vis a tergo* as well. For as the colder zones shifted to the north, the more genial zones bordering them on the south followed, *pari passu*, close upon their heels, zones peopled by another fauna and other races of men. Indeed, if we may judge by the relations which exist between the Eskimo and the North American Indians, not only other, but also hostile, races.

In the light of these considerations, it would appear that our only reason for any feeling of surprise is, not that Chancelade man should prove a close relation of the Eskimo, but that so far he is the only fossil example of his kind of which we have any certain knowledge.

We await further discoveries, which may not only furnish additional remains from Magdalenian deposits, but may, perhaps, reveal some lingering traces of Eskimo influence in one or other of the ancient races inhabiting the Old World.

[*Postscript, July 14th*, 1927.—This paper was written and nearly ready for publication before the end of 1925, but owing to the pressure of other claims—less important, but more imperative—it had to be laid aside for the whole of the following year. In that interval the results of a searching investigation into the relationship of the Chancelade and the Eskimo Skulls, made with the aid of a refined mathematical analysis, was published by Mr. G. M. Morant.[1]

[1] G. M. Morant, "Studies of Palæolithic Man," *Annals of Eugenics*, April, 1926, vol. 1, pp. 257–76, 10 pls.

It was not, however, till after my paper had been read before the Institute (February 8th, 1927) that a copy of Mr. Morant's paper, which I owe to the kindness of the author, came into my possession. This must be my apology for the absence of any reference to it in these pages.

That Testut's views should have received so complete a confirmation is extremely gratifying, and in Mr. Morant's treatise we recognize a fine tribute to the merits of a distinguished anatomist who, with less ample material for comparison and less exact methods for its investigation, was yet able to arrive at a sound conclusion. Mr. Morant's measurements where they differ from mine will, no doubt, be found to be the more exact: some of them are welcome improvements, *e.g.* the value of 99·9 mm. for the bigonial breadth and 148 mm. for the basi-bregmatic height.

Like Mr. Morant, I have referred to some uncertainties arising from the necessary reconstruction of the skull, one affecting the position of the prosthenion and the other of the basi-bregmatic height: but, unlike him, I had not the courage to shift these points—at least, not in print—into what is evidently their more rightful place.—W. J. S.]

SUBINCISION AND KINDRED RITES OF THE AUSTRALIAN ABORIGINAL.

By Herbert Basedow, M.A., M.D., B.Sc.

Introduction.

Of the several rites the Australian aboriginal has to submit to in connection with his gradation to a state of recognized maturity among his tribespeople, there is none so important, indeed, none so drastic, as that of subincision. With the exception of very few who are sexually or anatomically deficient (hermaphroditism and hypospadias), all young men, living within the region over which the rite is practised, are subjected to the painful ordeal.

It might be mentioned that greater or lesser degrees of hermaphroditism, with some congenital malformation or defect of the organs of sex, are not infrequently observed among the aborigines of Australia. The Arunndta tribe refer to the phenomenon as *waiapulla*. Three cases have come under my personal notice,[1] one of which I shall briefly describe.

An individual was examined at Horseshoe Bend[2] who presented less the features of a pseud-hermaphrodite than those of a eunuch*.[3] An aged male, named Kanjugallega, of the Arunndta tribe, was peculiar in so far as he possessed only the vestige of a scrotum and no palpable testes. The penis was abnormally small but not deformed. From the pubes two large longitudinal folds of integument communicated with the inner surfaces of the thighs, symmetrically on both sides, and formed between them a sort of *rima pudendi* in which were enclosed the diminutive penis and the scrotal flaps of skin below. The man was of tall and slender stature; his skin was soft and flabby and, with the exception of the scalp, had very few hairs upon it; even the axillæ and pubes were practically bare. His voice was puerile and his facial features were distinctly feminine. When questioned as to the cause of his anatomical deficiency, the only explanation the fellow tendered was that "wild dogs been catch'em long time," meaning that in his infancy wild dogs had run away with his testicles. This was, of course, an invented story: the defect was plainly congenital and there was no indication of a scar. In allusion to an unbranded beast, the local natives had given this man the nickname "Old Man Calf."

[1] *Vide* H. Basedow, "Journal of the Government North-West Expedition," *Proc. Roy. Geogr. Soc.* (*S. Austral. Branch*), 1914, vol. xv, p. 131.

[2] H. Basedow, "Report upon Medical Relief Expedition among the Aborigines," 1920. (MS.)

[*3] See list of photographs, p. 150, No. 1.

AGE OF SUBINCISION-CANDIDATE.

Among the tribes who are subject to the ancient observances, the ceremony which includes subincision invariably follows that of circumcision, the interval between the two events varying from six to eight weeks or more. Spencer and Gillen[1] say that with the Arunndta tribe the interval is from five to six weeks, but, in comparison with my own observations, this would represent a rather short average: and, indeed, in a subsequent publication, these authors admit that the intervening period may be longer.[2] F. J. Gillen also points out that the circumcision wound "generally takes from six to eight weeks to heal."[3] In Queensland, W. E. Roth estimated the date of subincision ceremonies to fall a few months later than those of circumcision. There is no hard-and-fast rule, however, which fixes the event to a day, or even a year. The decision, which at times is sudden, is entirely at the discretion of some old men. Under normal conditions this depends largely upon the boy's convalescence or outward appearance of fitness. There are also extenuating circumstances, such as important religious observances, warfare, hunting expeditions, and diplomatic visitations, which may defer the event considerably, even to the extent of a year or two. Hence we find R. H. Mathews reporting that "The interval may be only a few months, or it may be a year or two, or perhaps several years."[4] and A. G. B. Ravenscroft,[5] that among the Tjingali the rite is performed at an advanced period of life: in the latter case circumcision is said to have taken place at the age of ten. On the other hand, W. G. Stretton[6] observes that certain Carpentaria Gulf tribes perform both operations at one sitting.

As nearly as it is possible to gauge the age of an aboriginal, circumcision and subincision take place at the age of about fourteen years,[7] a comparatively ripe age at which the individual has all signs of puberty fully developed. Anderson Stuart[8] maintains that eight days is the soonest he has seen recorded, but points out that the time of life varies to the extent that married men, who are fathers of a family of two

[1] B. Spencer and F. J. Gillen, "Notes on Certain of the Initiation Ceremonies of the Arunta Tribe, etc.," *Proc. Roy. Soc. Victoria*, 1898, vol. x (New Series), part ii, p. 169.

[2] B. Spencer and F. J. Gillen, *The Native Tribes of Central Australia*, 1899, p. 251.

[3] F. J. Gillen, "Notes on some Manners and Customs of the Aborigines, etc.," *Report Horn Expedition*, 1896, part iv (Anthropology), p. 172.

[4] R. H. Mathews, "Phallic Rites and Initiation Ceremonies of the South Australian Aborigines," *Proc. Amer. Phil. Soc.*, 1900, vol. xxxix, p. 626.

[5] A. G. B. Ravenscroft, "Some Habits and Customs of the Chingalee Tribe, Northern Territory, S.A.," *Trans. Roy. Soc. S. Austral.*, 1892, vol. xix, pp. 121–2.

[6] W. G. Stretton, "Customs, Rites and Superstitions of the Aboriginal Tribes of the Gulf of Carpentaria," *Trans. Roy. Soc. S. Austral.*, 1893, vol. xvii, pp. 232–3.

[7] *Cf.* R. Helms, "Anthropology," Elder Expedition, *Trans. Roy. Soc. S. Austral.*, 1896, vol. xvi, part ii, p. 249.

[8] T. P. Anderson Stuart, "The 'Mika' or 'Kulpi' Operation," *Trans. Roy. Soc. N.S.W.*, 1896, vol. xxx, p. 117.

or three children, are occasionally among the initiates.[1] J. M. Creed inclines towards the latter view, namely, that the operation is performed both at the age of puberty and at a more advanced period.[2] S. Gason defines the age more generally by writing that "so soon as the hair on the face of a young man is sufficiently grown to admit the ends of the beard being tied," the Dieri decide upon the operation.[3] Of their neighbours, immediately to the north-east, F. H. Wells says the second operation does not take place until the man attains the age of twenty-five, that is, about nine years after he was circumcised.[4] In the Northern Kimberleys of Western Australia, B. S. Corney writes, the operation "is performed at puberty as a regular function,"[5] while R. Helms estimates the age at sixteen or seventeen years.[6] In the same area, W. W. Froggat[7] found circumcision to take place at the age of nine or ten and subincision five years later; the latter age agrees entirely with my own observations, but I did not find so long an interval to occur between the two events. On the eastern side of Australia, on the Gulf of Carpentaria, J. C. Cox[8] estimated the initiate's age to be from ten to twelve years among the Queensland tribes, and P. Foelsche[9] fourteen for circumcision and eighteen for subincision among the Northern Territory tribes.

"Firestick-Circumcision."

Not every tribe that circumcises necessarily subincises also. The old Adelaide tribes, for instance, practised the former but not the latter operation; and the same is true of certain tribes on the north coast of Australia.

Occasionally one meets with a tribe among whom subincision is in vogue, but circumcision is not recognized as a preliminary to it.[10] An interesting case presenting

[1] *Cf.* Carl Lumholtz, *Among Cannibals*, p. 47, London, 1889.

[2] J. M. Creed, "Extraordinary Customs of the Aborigines of Central Australia," *Austral. Med. Gazette*, 1883, vol. ii, p. 95.

[3] S. Gason, *The Dieyerie Tribe of Australian Aborigines*, p. 21, Adelaide, 1874; also in *The Native Tribes of South Australia*, etc., p. 273, Adelaide, 1879.

[4] F. H. Wells, "The Habits, Customs, and Ceremonies of the Aboriginals of the Diamentina, etc.," *Report Austral. Assoc. Adv. Science*, 1893, vol. v, p. 515.

[5] B. S. Corney, "On Certain Mutilations Practised by Natives of the Viti Islands," *Report Austral. Assoc. Adv. Science*, 1890, vol. ii, p. 648.

[6] R. Helms, "Anthropology," Elder Expedition, *Trans. Roy. Soc. S. Austral.*, 1896, vol. xvi, p. 291.

[7] W. W. Froggat, "Notes on the Natives of West Kimberley, N.W. Australia," *Proc. Linn. Soc. N.S.W.*, 1888, vol. iii, part ii, p. 652.

[8] J. C. Cox, "Notes on Some of the Habits and Customs of Australian Natives in Queensland," *Proc. Linn. Soc. N.S.W.*, 1881, vol. v, part 4, p. 633.

[9] P. Foelsche, "Notes on the Aborigines of North Australia," *Trans. Roy. Soc. S. Austral.*, 1882, vol. v, pp. 17, 18; also in N. von Miklucho-Maclay, "Bericht uber Operationen Australischer Eingeborner," *Zeitsch. für Ethnol.* (*Verhandl.*), 1882, vol. xiv, p. 28.

[10] *Cf.* T. P. Anderson Stuart, *Trans. Roy. Soc. N.S.W.*, 1896, vol. xxx, p. 121: "The prepuce was intact, there having been no preliminary circumcision."

a novelty, which, so far as I have been able to ascertain, has not been previously recorded, is the method adopted by the Yantowannta in the Cooper Creek district, on the eastern fringe of the area over which mutilations of the penis are undertaken. According to the testimony of the few remaining groups of this tribe, neither circumcision nor subincision was ever a general custom locally.[1] In the place of the former, however the prepuce is specially treated during the period of initiation. Instead of hacking off the skin with a stone splinter, the operator makes use of a glowing firestick. The ceremony is as solemn as that of any equivalent initiation rite. The boy is tripped, so that he falls with his back straight across the bodies of three or four men, who lie beside each other in a row with their faces turned to the ground. While others hold the boy by his legs and arms, an old man, who officiates as the operator's assistant, sits upon his chest. The operator takes up a kneeling position within the angle formed by the novice's thighs. Upon a signal previously arranged, the assistant seizes the patient's organ and pushes the prepuce back over the glans. The operator immediately applies the red-hot end of his firestick to the crinkled mass of skin in a mid-dorsal spot below the corona. The skin blisters and fizzles, and the burn inflicted is locally so severe that the tissue is actually destroyed. The operation is now over, and the only after-treatment adopted is to anoint the wound with a paste of emu-fat and ochre. The damaged skin is then tied in a retracted position with fur-string. If need be, this string may occasionally be removed, but it will have to be applied again shortly after. The wound usually heals by prolific granulation, the process ultimately leaving a large flat scar which securely knits the prepuce on to the dorsum of the penis. In a sense, a condition similar to that of circumcision is thus brought about, to the extent, at any rate, of keeping the glans permanently exposed.

I have not seen this method employed by any other tribe in Australia, although one frequently hears that traditionally the firestick has played a great rôle in the circumcision of young men. B. Spencer and F. J. Gillen,[2] in describing the "*Lartna*" or circumcision ceremony of the Arunta (my Arunndta), state that the Alcherringa men of the little hawk totem are supposed to have first introduced the use of stone knives for circumcision, "the operation having been previously conducted by means of a firestick." In a footnote these authors further write: "In the southern part of the tribe the tradition is that an aged woman, angry because of the number of boys who were killed in consequence of the use of a firestick for circumcision, showed the men how to use a stone knife." It is possible that the method I have just

[1] I think R. Helms must be referring to this tribe when he says: "On the Diamentina lives a tribe that circumcises, but does not subincise." (*Trans. Roy. Soc. S. Austral.*, 1896, vol. xvi, part 3, p. 249.)

[2] B. Spencer and F. J. Gillen, *The Native Tribes of Central Australia*, 1899, pp. 223, 224, 394. According to C. Strehlow, the Aluridja also believe that at one time their forefathers performed the operation of circumcision with a burning piece of bark. (*Die Aranda und Loritja Stämme in Zentral Australien*, part II, p. 5, Volker Museum, Frankfurt, 1905.)

described of the Yantowannta in eastern Central Australia has some bearing on the traditional record of firestick-circumcision met with in other parts of the same region.

Ceremonies.

I do not in this paper propose to pay any particular attention to the ceremonies which always accompany the actual operation, but refer the readers to the accounts given by F. J. Gillen.[1] B. Spencer and F. J. Gillen.[2] A. W. Howitt.[3] S. Gason.[4] and C. Wilhelmi.[5] and to a general description I have recently published.[6] For an interesting review of certain psychological aspects connected with the rite, the works of J. G. Frazer[7] and G. Roheim[8] are recommended.

Historical.

It may have been largely owing to the coincidence, that the first settlements in Australia by Europeans took place in areas where subincision was not practised, that no particularly early record of the rite is available. Again, this want of information may, as we shall see later, be due to the fact that, under ordinary conditions, the urethral aspect of the organ is hidden, and so the mutilation would escape the casual observer's eye.

E. J. Eyre.[9] the explorer, appears to have been the first to have officially noted the rite we now know as subincision among the natives of the Port Lincoln district, and west thereof, during his memorable journey around the Great Australian Bight to King George's Sound in the years 1841–2. He briefly describes it as follows: "Finditur usque ad urethram a parte infera penis."

In 1846, C. W. Schürmann published an intelligent account of the operation, as he had seen it practised by the Port Lincoln natives. "It consists of a cut," he says, "from the orifice of the penis, along its lower side down to the scrotum, thus laying the passage open in its whole length."[10]

In 1860, C. Wilhelmi quotes Eyre, and, relying upon C. W. Schürmann, who was a missionary at Port Lincoln, for the information, describes some of the ceremonies

[1] F. J. Gillen, *Report Horn Expedition*, 1896, part iv (Anthropology), pp. 169–75.

[2] B. Spencer and F. J. Gillen, *The Northern Tribes of Central Australia*, 1904, pp. 341, 342, 348, 354, 356, 368, 373; *loc. cit.*, 1899, pp. 251–69.

[3] A. W. Howitt, *The Native Tribes of South-East Australia*, 1904, pp. 662 *sqq.*

[4] S. Gason, in Howitt, *Journ. Roy. Anthrop. Inst.*, 1891, vol. xx, pp. 85–7.

[5] C. Wilhelmi, "Manners and Customs of the Australian Natives," *Trans. Roy. Soc. Victoria*, 1860, vol. v, pp. 184 *sqq.* Wilhelmi obtained his information from his friend C. W. Schurmann, but unfortunately includes facts relating to subincision under the general heading of circumcision (p. 212).

[6] H. Basedow, *The Australian Aboriginal*, pp. 245–9, Adelaide, 1925.

[7] J. G. Frazer, *The Golden Bough*, 1913, vol. i, pp. 92 *sqq.*; vol. xi, pp. 234–5.

[8] G. Roheim, *Australian Totemism*, 1925.

[9] E. J. Eyre, *Journs. of Expeds., etc.*, 1845, vol. ii, p. 332; and vol. i, pp. 212–13.

[10] C. W. Schurmann, *Port Lincoln Tribes*, etc., p. 15; G. Dehane, Adel., 5, 1846.

connected with the rite: he seems to have considered the operation a form of circumcision.[1] Ten years later Wilhelmi again refers to the mutilation as practised by the Port Lincoln natives, but his description is still somewhat ambiguous. "Die Operation" he writes, "nimmt nicht nur die Vorhaut, sondern spaltet auch den Penis von unten bis zur Urethra."[2]

A passing reference is made to the operation by W. R. H. Jessop (1862), who also seems to have regarded it as a variety of circumcision. "There appear to be four distinct methods of performing this ceremony, namely, circumcision proper, division, perforation, and depilation."[3] "Division" no doubt stands for what we now call subincision: it is difficult to conceive, however, how "depilation" could possibly be classed as a method of circumcision. J. Lubbock, in his book *Prehistoric Times*, mentions the rite discovered by Eyre, which he designates an "almost incredible ceremonial."[4]

S. Gason reported the rite to exist among the Dieri Tribe in Central Australia in 1874, by whom it was known as "*Koolpie*."[5] An interesting variety of the operation was first reported from the Gawler Ranges in 1878 by A. C. Le Souef.[6] and his observation was corroborated shortly after by C. Provis.[7] C. W. Schürmann's treatise was reprinted in 1879.[8] together with that of S. Gason and comments upon the rite by J. D. Woods. Almost simultaneously, Milne Robertson, Surgeon of the Convict Establishment on Rottnest Island, published an account of the operation from Western Australia.[9] In the following year a visiting scientist, N. von Miklucho-Maclay,[10] described the rite, evidently from hearsay, as the "*Mika Operation*." A number of important records now appeared in quick succession. From the north coast of Australia the rite was independently reported by J. C. Cox.[11] E. T. Hardman.[12]

[1] C. Wilhelmi, "Manners and Customs of the Australian Natives," *Trans. Roy. Soc. Victoria*, 1860, vol. v, p. 212.

[2] C. Wilhelmi, *Sitten und Gebräuche der Port Lincoln Eingeborenen*, p. 24, Aus Allen Welttheilen, 1 Jahrg., 1870. This account was reprinted by T. Waitz, *Anthropologie der Naturvölker*, 1872, vol. vi, p. 784.

[3] W. R. H. Jessop, *Flinders Island and Strutland*, 1862, vol. ii, p. 206.

[4] J. Lubbock, *Prehistoric Times*, 1872, p. 447.

[5] S. Gason, *The Dieyerie Tribe of Australian Aborigines*, p. 21, Adelaide, 1874: also in *The Native Tribes of South Australia*, p. 237, Adelaide, 1879.

[6] In Brough Smyth, vol. ii, 1878, p. 296.

[7] In G. Taplin, *The Folklore, Manners, Customs, and Languages of the South Australian Aborigines*, 1879, p. 99.

[8] Vide *The Native Tribes of South Australia*, 1879, p. 231; also pp. 237 *et* xiv.

[9] Milne Robertson, *Report upon certain Peculiar Habits and Customs of the Aborigines of Western Australia*, Perth, 1879. Robertson also sent a photograph of the mutilated organ of an aboriginal to the exhibition at Sydney, but this was lost.

[10] N. von Miklucho-Maclay, "Über die Mika-Operation in Central-Australien," *Zeitschr. für Ethnol. (Verhandl.)*, 1880, vol. xii, p. 85; *Revue d'Anthropologie*, 1882, vol. v, p. 181.

[11] J. C. Cox, "Notes on Some of the Habits and Customs of Australian Natives in Queensland," *Proc. Linn. Soc. N.S.W.*, 1881, vol. v, part 4, pp. 633–6.

[12] E. T. Hardman, *Proc. Roy. Irish Academy*, 1881, i (3).

P. Foelsche,[1] W. W. Froggat,[2] and E. Palmer:[3] and from the interior by J. M. Creed.[4] It is doubtful whether R. Sadleir observed this operation. He writes: "An aboriginal is not allowed any of the privileges of manhood . . . before he has undergone certain ceremonies, which, as they are extremely painful and revolting, are supposed to test his courage and power of endurance."[5] Like W. R. H. Jessop, he also alludes to depilation, which he considered one of the most painful practices of the South Australian natives.

E. M. Curr makes frequent reference to the mutilation of the male organ, and invented for it the name "terrible rite."[6] C. Lumholtz, in 1889, briefly alluded to the custom as he found it in South-Western Queensland.[7] In 1890, B. S. Corney[8] described some mutilations performed by the natives of the Viti Islands which to a certain extent resemble the subincision of Australian tribes. The operations are known as *Thoka losi* and *Taya ngalengale*, and are undertaken for remedial purposes.[9] The latter of these operations is said to have the greater resemblance to the Australian rite, and "consists in incising the urethra at its *meatus* to a point just behind the *frænum præputii*, including division of its artery." The *Thoka losi* method is quite different to anything seen in Australia, although the ultimate result may be the same. "It consists in passing a bougie or sound into the male urethra as far as the membranous portion, and in making an incision about an inch in length upon it from without at the bulbous portion. A seton may or may not then be passed in at the wound and out at the meatus, according to the whim of the operator."

In connection with the description of a stone-knife, used for performing the operation, R. Etheridge, in the same year, compiled a list of literature upon the subject of subincision: he pointed out that the rite is known as either "*Mika*" or "*Mikae*."[10] In the next year, A. W. Howitt[11] recounted the course of proceedings at initiation ceremonies of the Dieri and other tribes, embodying in his paper the

[1] P. Foelsche, "Notes on the Aborigines of North Australia," *Trans. Roy. Soc. S. Austral.*, 1882, vol. v, pp. 17, 18.

[2] W. W. Froggat, "Notes on the Natives of West Kimberley, N.W. Australia," *Proc. Linn. Soc. N.S.W.*, 1888, vol. iii, part ii, p. 652.

[3] E. Palmer, "Notes on Some Australian Tribes," *Journ. Roy. Anthrop. Inst.*, 1884, vol. xiii, p. 295.

[4] J. M. Creed, "Extraordinary Custom of the Aborigines of Central Australia," *Austral. Med. Gaz.*, 1883, vol. ii, pp. 95–97.

[5] R. Sadleir, *The Aborigines of Australia*, 1883, p. 11.

[6] E. M. Curr, *The Australian Race*, 1886, vol. i, p. 72.

[7] C. Lumholtz, *Among Cannibals*, 1889, p. 47.

[8] B. S. Corney, "On Certain Mutilations Practised by the Natives of the Viti Islands," *Report Austral. Assoc. Adv. Science*, 1890, vol. ii, pp. 646–53.

[9] *Cf.* L. Fison in A. W. Howitt, *Journ. Roy. Anthrop. Inst.*, 1891, vol. xx, p. 87 (footnote).

[10] R. Etheridge, Junr., "Notes on Aboriginal Stone Weapons and Implements," *Proc. Linn. Soc. N.S.W.*, 1890, vol. v, 2nd series, pp. 251 *sqq.* *et* 289 *sqq.*

[11] A. W. Howitt, "The Dieri and other Kindred Tribes of Central Australia," *Journ. Roy. Anthrop. Inst.*, 1891, vol. xx, pp. 85 *sqq.* *Cf.* also A. W. Howitt, *The Native Tribes of South-East Australia*, 1904, p. 662.

observation of S. Gason. He adopted Gason's term "*Koolpie*," but altered it to "*Kulpi*." He also calls it "*Kulpe*."[1] A number of other valuable papers came to hand during the 'nineties of last century, some of which were the direct outcome of the Elder and Horn Scientific Expeditions in Central Australia. A. G. B. Ravenscroft noticed the rite among the Tjingali Tribe in the Northern Territory,[2] and F. H. Wells, in the north-east of South Australia.[3] M. Bartels[4] produced an interesting review of some of the important treatises on the subject. The names of C. E. Stirling and F. J. Gillen are identified with the anthropological report of the Horn Expedition, the former author suggesting to discontinue the use of such a term as the "terrible rite," and in lieu of it introduced the word "subincision,"[5] which has since been accepted generally by scientists as a suitable expression for the operation. Gillen described the rite of the Arunndta tribe, among whom it is known as "*Arrilta*."[6] Subsequently other accounts appeared under the joint-authorship of B. Spencer and F. J. Gillen, when the rite was referred to as "*Arilthа*."[7] I must admit, however, that the former agrees entirely with my way of spelling the word. About the same time (1896), R. Helms, who accompanied the Elder Expedition, enriched our knowledge of the geographical distribution of the rite in Central and Western Australia. He mentions the Wungarabunna (my Arrabonna) term "*Yerupa*" (my "*Yerrupa*") for the operation and its accompanying ceremony.[8]

One of the best and most comprehensive treatises written on the subject is by the pen of T. P. Anderson Stuart[9]: it includes two reproductions (from photographs) of a subincised penis. The paper was in part reprinted by R. H. Mathews.[10] It was followed by W. E. Roth's noteworthy essay on the western tribes of Queensland.

[1] *Report Austral. Assoc. Adv. Science*, 1891, vol. iii. p. 343.

[2] A. G. B. Ravenscroft, "Some Habits and Customs of the Chingalee Tribe, Northern Territory, S.A.," *Trans. Roy. Soc. S. Austral.*, 1892, vol. xix. p. 121. Ravenscroft mentions Charlotte Waters as being the centre of the tribal area: this no doubt should have been Newcastle Waters, since Charlotte Waters is roughly 500 miles south of Tjingali country and stands practically in the centre of Arunndta territory.

[3] F. H. Wells, "The Habits, Customs, and Ceremonies of the Aboriginals of the Diamentina, Herbert, and Eleanor Rivers, in East Central Australia," *Report Austral. Assoc. Adv. Science*, 1893, vol. v. p. 515.

[4] M. Bartels, *Die Medicin der Naturvölker*, pp. 297–8, Leipzig, 1893.

[5] E. C. Stirling, *Report Horn Expedition*, 1896, part iv (Anthropology), p. 26.

[6] F. J. Gillen, *ibid.*, p. 172.

[7] B. Spencer and F. J. Gillen, "Notes on Certain of the Initiation Ceremonies of the Arunta Tribe, Central Australia," *Proc. Roy. Soc. Victoria*, 1898, vol. x (New Series), part ii, p. 169; *The Native Tribes of Central Australia*, 1899, p. 251; *The Northern Tribes of Central Australia*, 1904, p. 133.

[8] R. Helms, "Reports, Elder Expedition (Anthropology)," *Trans. Roy. Soc. S. Austral.*, 1896, vol. xvi. part iii. p. 249.

[9] T. P. Anderson Stuart, "The 'Mika' or 'Kulpi' Operation of the Australian Aboriginal," *Proc. Roy. Soc. N.S.W.*, 1896, vol. xxx, pp. 115–23 (Pl. VI).

[10] R. H. Mathews, *Ethnological Notes on the Aboriginal Tribes of New South Wales and Victoria*, pp. 174–7, Sydney, 1905.

Roth introduced the term "introcision" in order to include under the same title the corresponding mutilation of the female.[1]

As a result of their journey across the continent, B. Spencer and F. J. Gillen added considerably to the knowledge of the rite's geographical range:[2] and, as a member of the Government North-West Expedition in 1903, I traced the mutilation throughout the north-western region of South Australia,[3] where it is known as "*Kallokundana*."

In 1906, W. Ramsay Smith described a partial incision he had observed in a man from Borroloola:[4] and, in the following year, H. Klaatsch contended that, so far as the natives of the Northern Kimberleys were concerned, the origin of the operation could be traced to a remarkable sex-perverseness among the male members of the tribes.[5] After a sojourn of four years among the tribes of South Australia, E. Eylmann published the results of his researches, in which he included some observations on the rite of subincision.[6]

In his work on the native tribes of the Northern Territory, B. Spencer describes the subincision rite of the Mungarai Tribe on the Roper River.[7] A synopsis of the subject is also contained in my recent work on the aborigines.[8]

Geographical Range.

The tribes that practise subincision are those resident in Central, Northern, Western, and North-Western Australia. More accurately expressed, these tribes occupy the regions extending from the Barcoo River in South-Western Queensland to the Victoria, Gibson, and Great Sandy Deserts in Western Australia, the Northern Kimberleys right on to the coast-line, Eyre's Peninsula, and the country north of the Great Australian Bight (from Port Lincoln to about 200 miles west of Eucla), the Musgrave and the MacDonnell Ranges, the greater part of that geographical division of the Commonwealth which is usually referred to as the Northern Territory, and the west-central and western Carpentaria Gulf districts of Queensland, including the Wellesley and Mornington Islands. From this area must be excluded the Larrekiya and Wulna Tribes at and near Port Darwin, the coastal tribes immediately east, as far as the Nicholson River, and the Melville and Bathurst Islanders.

[1] W. E. Roth, *Ethnological Studies among the North-West Central Queensland Aborigines*, 1897, p. 177.

[2] B. Spencer and F. J. Gillen, *The Northern Tribes of Central Australia*, 1904, p. 133.

[3] H. Basedow, "Anthropological Notes made on the South Australian Government North-West Prospecting Expedition, 1903," *Trans. Roy. Soc. S. Austral.*, 1904, vol. xxviii, p. 23.

[4] W. Ramsay Smith, "Notes on Aboriginals of the Northern Territory of South Australia," *Proc. Royal Soc. Edinburgh*, 1906–7, vol. xxvii, part I, p. 59.

[5] H. Klaatsch, "Some Notes on Scientific Travel Amongst the Black Population of Tropical Australia in 1904, 1905, 1906," *Report Austral. Assoc. Adv. Science*, 1907, vol. xi, p. 581 *et seq.*

[6] E. Eylmann, *Die Eingeborenen der Kolonie Südaustralien*, 1908, pp. 117–23.

[7] B. Spencer, *Native Tribes of the Northern Territory of Australia*, 1914, p. 167.

[8] H. Basedow, *The Australian Aboriginal*, 1925, pp. 245–9.

The natives of the remaining portion of the Australian continent, that is, those of the eastern coastal belt and those of the south-western and south-eastern corners, do not (or did not) perform any operation upon the sexual organ.[1] In regard to circumcision, E. J. Eyre[2] remarks that, "at Swan River, King George's Sound, and nearly 300 miles to the eastward of the latter place, no such rite exists. Round the head of the Great Australian Bight, and throughout the Port Lincoln Peninsula, not only is this rite performed, but a still more extraordinary one [*viz.* subincision]



FIG. 1.—MAP OF AUSTRALIA, SHOWING GEOGRAPHICAL RANGE OF SUBINCISION RITE.

conjoined with it. Descending the east side of Spencer's and St. Vincent's Gulf, and around the district of Adelaide, the simple rite of circumcision is retained. Proceeding but a little farther to the banks of the Murray and its neighbourhood, no such ceremony exists . . ." E. M. Curr informs us that it was also absent among the River Darling tribes,[3] and apparently it was not known in Victoria and New South Wales.[4] There are very few exceptions, which will be mentioned later. Along the north coast, the tribes which have been named as exceptions (Larrekiya, Wulna, Melville, and Bathurst

[1] *Cf.* B. Spencer and F. J. Gillen, *The Native Tribes of Central Australia*, p. 453. A. W. Howitt, *The Native Tribes of South-East Australia*, p. 512.

[2] *Journs. Expds. Discovery*, 1845, vol. ii, p. 332; also vol. i, p. 212.

[3] *The Australian Race*, vol. ii, p. 171.

[4] R. Brough Smyth, *The Aborigines of Victoria*, vol. ii, p. 296.

Islanders, etc.) do not circumcise.[1] The natives south of Port Darwin, however, on the Daly River, practise circumcision but not subincision.[2] Lastly, the tribal area exempted from these mutilations in the south-western corner of Australia extends along the coast from about Geraldton to the edge of the Hampton Tableland.[3]

A very fair idea of the extent to which the rite was observed is supplied by Miklucho-Maclay, although his inclusion of the Port Darwin natives is, as we have seen, not in accordance with fact. He writes:[4] "Die Mika Operation hat in Australien eine grosse Verbreitung. Sie wird nicht nur in Süd- und Central-Australien angetroffen, sondern auch von den Eingeborenen um Port Darwin ausgeübt." He further remarks that the operation had been reported from the north-west coastal districts.[5]

The following are the principal districts mentioned by E. M. Curr in which subincision is recognized[6]:—Dampier's Land: between coast and Nicholson River to Yangarilla Tribe: Kalkadoon Tribe: between Leichhardt and Gregory Rivers: Mytagoordi, head of Gregory River: Upper Sandford River; Head of Great Australian Bight: York Peninsula and Port Lincoln; Umbertana: Warburton River: Charlotte Waters: Hamilton River: Burke River: near Leichhardt Range: Evelyn Creek: Eyre Creek: McKinlay Range: The Mulligan: Barkly Tableland: The O'Shannassy: Gregory Range.

J. C. Cox[7] reported the operation from the heads of the Cloncurry, the McKinlay Range and the watershed, thence west, except the tribes known as Kalkadoon, Edgiree, Rinooringoo, and Yallunga, and possibly others; also from Port Constantine, on the Cloncurry River, 270 miles south from Normanton, but in the latter case the custom is said to be not universal. P. Foelsche[8] traced the western boundary of the area over which the rite is practised from the Gulf of Carpentaria 100 miles inland, between the Roper and Nicholson Rivers. W. E. Roth[9] also confirmed these records in the Boulia, Leichhardt, Selwyn, Upper Georgina, Middle Diamentina, Burketown, and Wellesley Island districts of Queensland; while E. Palmer wrote that "a similar

[1] *Cf.* P. Foelsche, *Trans. Roy. Soc. S. Austral.*, 1881, vol. v, p. 6. B. Spencer and F. Gillen, *The Northern Tribes of Central Australia*, p. 331. H. Basedow, "Notes on the Natives of Bathurst Island," *Journ. Roy. Anthrop. Inst.*, 1913, vol. xliii, p. 296.

[2] *Cf.* D. Mackillop, "Anthropological Notes on the Aboriginal Tribes of the Daly River, North Australia," *Trans. Roy. Soc. S. Austral.*, 1892, vol. xviii, p. 257. H. Basedow, "Anthropological Notes on the Western Coastal Tribes of the Northern Territory of South Australia," 1907, vol. xxxi, pp. 12, 13. E. Eylmann, *Die Eingeborenen der Kolonie Südaustralien*, 1908, p. 117.

[3] *Cf.* R. Helms, *Trans. Roy. Soc. S. Austral.*, 1896, vol. xvi, part iii, p. 288.

[4] *Zeitschr. für Ethnolog. Verhandl.*), 1880, vol. xii, p. 86.

[5] *Loc. cit.*, p. 87.

[6] *The Australian Race*, vol. i, pp. 75, 368, 411, 422; vol. ii, pp. 19, 61-2, 112.

[7] *Proc. Linn. Soc. N.S.W.*, 1881, p. 634.

[8] *Trans. Roy. Soc. S. Austral.*, 1882, vol. v, p. 17.

[9] *Ethnological Studies among the North-West Central Queensland Aborigines*, 1897, p. 177.

custom can be traced from the Cloncurry River to the Great Australian Bight in the south."[1]

" In every tribe examined by us," state Spencer and Gillen, " from the Urabunna in the south right through the centre of the continent to the western shores of the Gulf of Carpentaria, subincision is practised upon the young men. . . "[2]

A. W. Howitt defines the eastern limit of this rite as follows: " A line drawn from the Murray mouth to the Gulf of Carpentaria roughly separates the area where circumcision is practised from that where it is not known. The same line will serve to show also the boundary of the *Kulpi* practice."[3] In other words: " Approximately the western boundary of New South Wales and of Queensland may be taken to mark the dividing line, although in Queensland the practice of circumcision and of *Kulpe* extends within that colony more or less."[4] " Within a small area of the north-west corner of New South Wales," writes R. H. Mathews,[5] " subincision is practised. Circumcision prevails in the same district, but extends somewhat beyond the limits within which splitting the penis is in force, reaching into New South Wales as far as Milparinka, Tibooburra, Cobham, Broken Hill, and other places." The south-eastern boundary of the rite is roughly indicated in a map.[6] E. Eylmann[7] rather vaguely limits the custom to all tribes living between the 15th and 30th degrees of S. latitude.

A summary of Central Australian tribes who practise circumcision and subincision is supplied by R. Helms,[8] viz. " Wungarabunna, Diyeri, Kukatha, Wonkongnuru, Gnameni, Yandruwuntha, Kuyanni, Wungaranda, Andijirigna, and the tribes near the Barrier Range, and probably also on the Murray."

SYNONYMS.

Numerous synonyms have at different times been used for the rite and mutilation we are discussing, among the principal of which are included: subincision, introcision, division, *urethrotomia externa*, terrible or gruesome rite, Sturt's rite, artificial hypospadias, whistle, " *mika*," " *kulpi*," " *arrilta*," " *yerrupa*," and several other native terms.

[1] *Journ. Roy. Anthrop. Inst.*, 1883, vol. xiii. p. 295.

[2] *The Northern Tribes of Central Australia*, p. 133.

[3] *Journ. Roy. Anthrop. Inst.*, 1891, vol. xx. p. 85.

[4] *Report Austral. Assoc. Adv. Science*, 1891, vol. iii. p. 343.

[5] *Ethnological Notes on the Aboriginal Tribes of New South Wales and Victoria*, 1905, p. 174.

[6] *Proc. Amer. Phil. Soc.*, vol. xxxix (1900), Pl. VI.

[7] *Die Eingeborenen der Kolonie Südaustralien*, p. 117.

[8] *Trans. Roy. Soc. S. Austral.*, 1896, vol. xvi. part iii. p. 249. After making allowances for slight differences in spelling, the position of these tribes can be seen in my book, *The Australian Aboriginal*, on p. 4. The prefix " wong " (or " wung "), used by Helms in one or two of his words, means " language," and does not really belong to the tribal name; for instance, his " Wungaranda " is my " Arunndta." The Unndagerrinya (Andijirigna) are the south-eastern group of the Aluridja.

Operation of Subincision.

The actual operation consists in slitting the whole or part of the penile urethra along the under (that is thinnest) side of the canal.[1] The initial cut is in most cases from 2 cms. to 2·5 cms. long, but on subsequent occasions it is extended, bit by bit, right up to the edge of the scrotum.[2]

W. E. Roth[3] found that, among the tribes of the Boulia district in Queensland, the extent of the wound was subject to considerable variation. "I have observed it," he writes, "varying from a little over half an inch in some cases, to a gash opening up almost the whole of the penis as low down as half an inch from the scrotum in others." Among the north-western tribes, B. S. Corney[4] observed that the slit extends 2 ins. or 3 ins.: in others it is carried quite to the scrotum. I should consider 3 ins. an extreme measurement. Milne Robertson,[5] after examining a number of natives at the Rottnest Penal Establishment, came to the conclusion that in the case of the De Grey tribesmen the urethra was opened from the *meatus urinarius* to the middle of the penis, while in men from the north side of the Murchison district the incision had been continued to the scrotum. Although these remarks would be perfectly accurate, so far as the prisoners who came under Robertson's observation were concerned, it does not follow that all other members of the two tribes mentioned would have shown the operation carried out to similarly uniform degrees. R. Helms,[6]

[1] *Cf.* E. J. Eyre, *Journs. Expds. Disc.*, 1845, vol. i, p. 332. C. W. Schurmann, *Aborig. Tribes of Port Lincoln, etc.*, 1846, p. 15; *The Native Tribes of S. Austral.*, 1879, p. 231. J. D. Woods, *ibid.*, p. xiv. Miklucho-Maclay, *Zeitschr. fur Ethnolog.* (*Verhandl.*), 1880, vol. xii, pp. 85, 87. J. C. Cox, *Proc. Linn. Soc. N.S.W.*, 1881, vol. v, part iv, p. 633. J. M. Creed, *The Australasian Med. Gaz.*, 1883, vol. ii, p. 95. E. Palmer, *Journ. Roy. Anthrop. Inst.*, 1883, vol. xiii, p. 295. W. W. Froggat, *Proc. Linn. Soc. N.S.W.*, 1888, vol. iii, part ii, p. 652. B. S. Corney, *Report Austral. Assoc. Adv. Science*, 1890, vol. ii, pp. 647–8. A. G. B. Ravenscroft, *Trans. Roy. Soc. S. Austral.*, 1892, vol. xix, p. 121. W. G. Stretton, *ibid.*, 1893, vol. xvii, pp. 232–3. T. P. Anderson Stuart, *Proc. Roy. Soc. N.S.W.*, 1896, vol. xxx, p. 115. E. C. Stirling, *Report Horn Expedition*, 1896, part iv, p. 26. F. J. Gillen, *ibid.*, 1896, part iv, p. 173. R. Helms, *Trans. Roy. Soc. S. Austral.*, 1896, vol. xvi, part iii, p. 249. W. E. Roth, *Ethnological Studies, etc.*, 1897, p. 177. B. Spencer and F. J. Gillen, *Proc Roy. Soc. Victoria*, 1898, vol x, New Series, p. 171. B. Spencer and F. J. Gillen, *The Native Tribes of Central Australia*, 1899, pp. 256, 263. R. H. Mathews, *Proc. Amer. Phil. Soc.*, 1900, vol. xxxix, p. 626. E. Clement, *Internat. Archiv für Ethnolog.*, 1903, vol. xvi, and *Publications Royal Ethnolog. Museum*, Leiden (series ii), No. 6, p. 13. B. Spencer and F. J. Gillen, *The Northern Tribes, etc.*, 1904, p. 342. E. Eylmann, *Die Eingeborenen der Kolonie Südaustralien*, 1908, p. 118. H. Basedow, *The Australian Aboriginal*, 1925, p. 247.

[2] *Cf.* B. Spencer and F. J. Gillen (*Northern Tribes, etc.*, p. 360): "In the Arunta tribe a man will frequently be recut after the performance of the operation on a youth . . . in the Warramunga, it is the regular custom for a newly initiated youth and the older men to gather together, and for every man to cut himself, or be cut by someone else. *Cf. also* H. Basedow, *The Australian Aboriginal*, pp. 247–8.

[3] *Ethnological Studies, etc.*, p. 178.

[4] *Report Austral. Assoc. Adv. Science*, 1890, vol. ii, p. 647.

[5] *Report upon Certain Peculiar Habits and Customs, etc.*, p. 8, Perth, 1879.

[6] *Trans. Roy. Soc. S. Austral.*, 1896, vol. xvi, part iii, p. 284.

for instance, noted that among natives of the Murchison district "the length of the incision varies, but it is often the whole length of the organ." The men from the Murchison examined by Milne Robertson were in all probability riper individuals who had more frequently submitted themselves to the progressive mutilation.

Apart from a great variety of ceremonies, which need not be considered here, the operation is conducted in much the same way by both Central and Northern tribes. The surgeon's assistant, who sits astride the novice's body on an operating table composed of the bodies of initiated men, holds the penis firmly between the fingers of both hands near its point and base. He steadies his grip by resting either his elbows against his thighs or his arms upon the novice's hips. This position secure, he draws the *corpus penis* longitudinally, with its dorsal surface downwards, and at the same time stretches the *integumentum* symmetrically to both sides, so that the *raphe* lies truly along the centre. The operator, who stands between the initiate's legs, uses this natural line as his guide and makes the incision, or incisions, with reference to it: the cut is always from the external orifice downwards. No instrument of any shape or form (bone, stick, etc.) is inserted into the urethra to serve as a guide or cutting surface.[1] J. D. Woods, however, reports of the tribes west of Port Lincoln: "Operationem hoc modo perficiunt, os walabii (*Halmaturus*) attenuatum per urethram immittunt illudque ad scrotum protrudunt ita ut permeet carnem. Scindunt dein lapide acuto usque ad glandem penis."[2]

In most cases two cuts are made, the first being superficial, the second through the entire thickness of the wall. W. E. Roth supplies some interesting particulars from Queensland tribes which, it will be apparent, are endorsed almost to the letter by my own observations. In the Boulia district, we are informed, the assistant "holds the penis firm and tense with both hands, the actual operator, seated on the ground in front, makes a superficial incision, through skin only, extending from the external *meatus* down to near the scrotal pouch in a line with the median *raphe*: a deeper incision is next made with the same stone-knife along the same line as the first, and starting from the external orifice, opens up the canal as it is pushed onwards."[3] Among the tribes of the Togo Ranges, Roth continues, "there is what appears to be a single vertical and an independently transverse incision."[4] As a typical illustration of a Central Australian method, I quote F. J. Gillen's description of that practised by the Arunndta. As in the previous instances, the attendant "takes up a position astride of the subject, grasps the *glans penis*, and puts the urethra on the stretch. The operator, who is often, but not always, chief of a group,

[1] Cf. E. C. Stirling, *Report Horn Expedition*, part iv, p. 27; and W. E. Roth, *Ethnological Studies*, etc., p. 178.

[2] *The Native Tribes of South Australia*, 1879, p. xiv.

[3] *Ethnological Studies*, etc., p. 178.

[4] *Op. cit.*, p. 179.

then approaches, and with his stone-knife quickly but carefully lays open the urethra from below for the whole length of the penis."[1]

When the urethral canal has been laid open by a tolerably straight median incision, the flaps which remain at the sides retract immediately, and the original concavity of the tube is reduced to a plane, or, at the most, a shallow groove. In fact, in many cases, Anderson Stuart's description perfectly portrays the condition in which the urethra is not even a groove, for the *corpora* project so that, instead of being concave, the urethral roof is actually convex.[2] The Northern Kimberleys tribes stop at this stage of the operation: after the incision has been made, everything else is left intact and the wound allowed to heal *per primam*.*[3]

Among other tribes, the operation aims at a partial or complete removal of the flaps. In the Upper Georgina district, for instance, W. E. Roth observed that "the operation consists of two vertical cuts into the urethra extending from the external orifice, with a third independently transverse one below, the resulting flap of skin being allowed to take its own time apparently in subsequently rotting off down the transverse cut."[4] I found a similar method to be in vogue among the natives on the coastal belt of the Great Australian Bight, from Streaky Bay westwards. The operation is decidedly more difficult than the simple median incision. The vertical cuts are made into the urethra as near as possible to the lateral walls, the single transverse cut falls immediately above the scrotum. Should a jagged edge result, an attempt may be made to trim it with the operating knife, but the red-hot end of a firestick is found to be more serviceable. The latter knack, in the first place, serves the purpose of staunching the flow of blood[5] which usually is considerable, and, secondly, shrivels the edges of skin by destroying the tissue. Vigorous granulation sets in soon after and forms a smooth cicatricial surface. The lateral flaps or uneven edges, which are often noticed after the simple median incision, are by this process completely obliterated*.[6] J. M. Creed[7] mentions that occasionally "the whole of the posterior wall is removed, so as to absolutely destroy the canal from the scrotum to the base of the *glans penis*." What undoubtedly is the most remarkable operation of all, however, is attributed to the Kalkadoon Tribe in the Cloncurry district by E. Palmer.[8] The original slit is allowed to heal, and "afterwards the urethra itself is taken out." In a footnote to this statement, Palmer adds: "In some only the canal is cut out, but I have been assured by competent witnesses that such is really done. The penis of those operated on hangs on the purse, and is always very

[1] *Report Horn Expedition*, part iv, p. 173.
[2] *Trans. Roy. Soc. N.S.W.*, 1896, vol. xxx, p. 120.
* [3] *See* list of photographs, p. 156, No. 3.
[4] *Ethnological Studies, etc.*, pp. 178–9.
[5] *Cf.* H. Basedow, *The Australian Aboriginal*, p. 248.
* [6] *See* list of photographs, p. 156, No. 4.
[7] *Austral. Med. Gaz.*, 1883, vol. ii, p. 95.
[8] *Journ. Roy. Anthrop. Inst.*, 1883, vol. xiii, p. 295.

disagreeable to look at, being moist and slimy with whitish mucus." I cannot imagine how any person, with such a meagre surgical knowledge as the aboriginal possesses, could perform an operation of this magnitude. To cut out the lining membrane along the greater part of its spongy portion is a performance one might expect of an advanced student in the dissecting-room, but not of an uneducated aboriginal.

A penis mutilated in any of the above-mentioned ways is really the artificial equivalent of the congenital malformation not infrequently met with in medical practice which is known as *hypospadias*.[1]

PERFORATION OF URETHRA.

There is still another variety of the operation known, which consists in making a hole into the pipe instead of slitting it along its length. In 1878, A. C. Le Souef[2] noticed that, among the natives of the Gawler Ranges in South Australia, a short incision was made in the urethra "at the base of the scrotum." According to C. Provis,[3] the incision was only half an inch long and was made between the glans and scrotum. J. M. Creed describes the mutilation as "an artificial opening in the inferior wall of the urethra, just anterior to the scrotum: in some tribes this opening is only from 1 in. to 1½ ins. long."[4] In the West Diamentina and Carpentaria districts of Queensland, C. Lumholtz informs us, the incision is about 1 in. long and extends almost to the scrotum.[5] Among the Kalkadoon Tribe in the Cloncurry district, E. Palmer[6] observed that "the slit in some cases extends only a short distance from the scrotum, in others it extends the whole way from it to the *glans penis*." On the western side of the Gulf of Carpentaria, W. G. Stretton[6] found that the perforations were made so small that it was occasionally necessary to enlarge them: whereas, P. Foelsche[7] reports of the same tribal area that the urethra is slit up "from its opening right down to its root."

This operation of perforating the urethra along a short section only of its penile portion is restricted to the eastern confines of the area over which the more drastic subincision is in vogue, that is, to a narrow belt of country extending from the Gulf of Carpentaria, along the western borders of Queensland, southwards into Eyre Peninsula. J. M. Creed does not discriminate between the two operations when he gives the

[1] *Cf.* N. von Miklucho-Maclay, *Zeitschr. für Ethnolog.* (*Verhandl.*), 1880, vol. xii. p. 85. J. M. Creed, *Austral. Med. Gaz.*, 1883, vol. ii. p. 97. C. Lumholtz, *Among Cannibals*, 1889, p. 47. T. P. Anderson Stuart, *Trans. Roy. Soc. N.S.W.*, 1896, vol. xxx. p. 121. E. C. Stirling, *Report Horn Expedition*, part iv. p. 26. W. E. Roth, *Ethnological Studies*, etc., 1897, p. 177. E. Eylmann, *Die Eingeborenen der Kolonie Südaustralien*, 1908, pp. 120–1.

[2] In Brough-Smyth, *The Aborigines of Victoria*, vol. ii, 1878, p. 296.

[3] In G. Taplin, *The Folklore, Manners, Customs*, etc., 1879, p. 99.

[4] *Austral. Med. Gaz.*, 1883, vol. ii. p. 95.

[5] *Among Cannibals*, 1889, pp. 47–8.

[6] *Journ. Roy. Anthrop. Inst.*, 1883, vol. xiii. p. 295.

[7] *Trans. Roy. Soc. S. Austral.*, 1883, vol. xvii. p. 233.

geographical range as : "Throughout the whole interior of the continent, from the eastern boundary of the watershed of the Georgina River on the east to nearly the settled districts of Western Australia on the west, and from the coast ranges on the north to Cooper's Creek watershed on the south."[1]

After-Treatment.

Whatever method of operation is resorted to, it is only natural that blood flows in considerable quantity and often spurts. The sufferer is immediately released and told to sit over a wooden receptacle, usually the haft of a shield or a small bark food-carrier.[2] If the bleeding persists, a handful of hot ashes is thrown over the wound.[3] A. W. Howitt says that by the Dieri the wound is "staunched with sand."[4] In the Murchison district, the natives, according to R. Helms,[5] place emu-feathers on the wound to stop the bleeding. "Hæmorrhage is arrested," writes W. E. Roth,[6] "by the patient squatting over some smoking embers and heated charcoal placed in a small excavation in the ground beneath him, the wound being subsequently smeared with greased and powdered charcoal: furthermore, for the next two or three weeks he will always try and arrange matters so as to micturate close to and over some smoking ashes." "If much pain be caused by the wound," B. Spencer and F. J. Gillen[7] explain, "he will return to the ash-heap, and, scooping out a little hole in the centre, will place therein some glowing pieces of charcoal, and upon these he will urinate, thus causing steam to arise which is said to give great relief to the pain." According to A. W. Howitt,[8] the practice among the Minning is that "the wound is treated by bandaging it with a piece of flat, smooth wood and the inner bark of an acacia. One of the medicine men spins a tassel of wombat or opossum fur, which is suspended from the waist of the patient by the operator, so as to hang down and keep the flies and dust from the wound." R. H. Mathews[9] describes a partly similar method, by which "a piece of soft bark, or a bundle of fur or down greased with animal fat, is laid in the incision to keep it open. Wet clay or ashes moistened with a man's urine are also put in the wound to assist the healing." Miklucho-Maclay[10] states that a piece of bark is placed in the wound to prevent the edges from re-uniting. A similar

[1] *Austral. Med. Gaz.*, 1883, vol. ii. p. 95.

[2] *Cf.* B. Spencer and F. J. Gillen, *The Native Tribes of Central Australia*, p. 256: and H. Basedow, *The Australian Aboriginal*, p. 247.

[3] *Cf.* H. Basedow, *Trans. Roy. Soc. S. Austral.*, 1904, vol. xxviii. p. 23.

[4] *The Native Tribes of S.E. Australia*, p. 663.

[5] *Trans. Roy. Soc. S. Austral.*, 1896, vol. xvi. p. 284.

[6] *Ethnological Studies, etc.*, p. 178.

[7] *The Native Tribes of Central Australia*, p. 256.

[8] *The Native Tribes of S.E. Australia*, p. 666.

[9] *Proc. Amer. Phil. Soc.*, vol. xxxix. p. 622.

[10] *Zeitschr. für Ethnolog.*, 1880, p. 85.

observation is made by P. Foelsche,[1] who says, "a small stick or bone is placed in the canal to keep it open." Confirmation of this method is also supplied by C. Lumholtz.[2] The last-named author further points out that, in the south-west of Queensland, the wound is burnt with hot stones,[3] a process R. Etheridge suggests may be the equivalent of cauterization.[4]

The operations I witnessed occasioned no particular fuss at all once the incision had been made. The after-treatment was simple: it consisted principally in the free application of ashes, clay, ochre, and emu-fat.[5] The patient then absented himself from the main camp during the period of his convalescence, and, with the exception of certain food restrictions, relied entirely upon Nature to completely heal the wound.

APPEARANCE AFTER OPERATION.

When the young man returns, his outward appearance betrays little or nothing of the great trial he has undergone. Provided we do not lift the penis and expose the results of the operation on its inferior side, the only difference in the appearance of the organ is that the scar underneath has shortened (consequently broadened) it: an experienced eye, especially that of an aboriginal, can immediately detect this stumpiness*.[6] "Though practically naked," says E. C. Stirling,[7] "nothing unusual in the organ, in the absence of special examination, is observable except a shortening due, no doubt, to cicatricial contraction of the rudely made wound."[8] In reference to certain tribes of North-Western Queensland, J. C. Cox[9] avers that, although the natives there are not circumcised, the prepuce, after subincision, shrinks back as the wound heals by cicatrization along the slit-up urethra. P. Foelsche[10] even goes so far as to write: "As the wound heals, the penis shrivels up, and has, in its collapsed state, the appearance of a large button." Entirely opposed to all observations among Australian aborigines is the statement published by B. S. Corney, who, among the Fijians, after they had been operated upon in a similar manner, was never "able to hear of any case of cicatricial contraction of the urethra."[11]

[1] *Trans. Roy. Soc. S. Austral.*, 1882, vol. v. p. 17; also in *Zeitschr. fur Ethnolog.*, 1882, vol. xiv. p. 29.

[2] *Among Cannibals*, 1889, p. 48.

[3] *Op. cit.*, p. 47.

[4] *Proc. Linn. Soc. N.S.W.*, 1890, vol. v. (2nd Series), p. 255.

[5] *Cf.* E. C. Stirling, *Report Horn Expedition*, part iv, p. 27; and A. G. B. Ravenscroft, *Trans. Roy. Soc. S. Austral.*, vol. xix. p. 121.

[6] * See list of photographs, p. 156, No. 5.

[7] *Report Horn Expedition*, part iv. p. 27.

[8] *Cf.* E. Eylmann, "Man kann das Vorhandensein derselben sofort an dem fast doppelten Umfange des Gliedes sehen" (*Die Eingeborenen der Kolonie Südaustralien*, p. 119).

[9] *Proc. Linn. Soc. N.S.W.*, 1881, vol. v. pp. 634–5.

[10] *Trans. Roy. Soc. S. Austral.*, 1882, vol. v. p. 18; *Zeitschr. fur Ethnolog.*, 1882, vol. xiv, p. 29; and M. Bartels, *Die Medicin der Naturvölker*, p. 298.

[11] *Report Austral. Assoc. Adv. Science*, 1890, vol. lxxxviii. p. 548.

Surgeon's Instrument.

The instrument which is used for performing the subincision is what is commonly referred to as a "stone-knife." As general descriptions of "stone-knives" have been made available by R. Etheridge,[1] E. C. Stirling,[2] B. Spencer and F. J. Gillen,[3] W. E. Roth, and others, I have little more to add at this stage. Gillen correctly pointed out to Stirling[4] that only "small-sized knives of this character are used in the initiatory rites." In point of fact, many objects are described as operation-knives which have never served that purpose: "but that they are used during fights is undoubted."[5] I have recently published an account of a stone-dagger duel,[6] which is accompanied by two sketches showing the large stone-knives thus used. The stone-knife from the Georgina River district, figured by C. Lumholtz,[7] is not a typical surgical instrument but a weapon. Miklucho-Maclay reproduces a picture of a genuine operating-knife, said to have come from the Herbert River[7]: "Dasselbe ist ein Quarzitsplitter mit einem Stiel welcher aus dem gehärteten Saft des Grasbaumes (*Xanthorrhœa*) hergestellt ist." If the locality is correct, the haft could not be of grass-tree resin, for the simple reason that this plant is unknown in that district; it is in all probability made of *Triodia* resin. Equally good illustrations have been supplied by A. S. Kenion and D. L. Stirling[8] and E. Eylmann.[9] The correct pattern of what is considered a first-class operating-knife consists of a short lanceolate blade whose section is an irregular triangle, nearly isosceles, with a very wide base and low altitude. The facet, whose section forms the greater side opposite the base, becomes the blade, the line along which it joins the greatest (*i.e.* basal) fracture-surface at an acute angle is the cutting edge. This edge is usually convex and has one or more very sharp points along its length. (Fig. 2, *a*.) R. Etheridge has drawn attention to this feature[10] when describing a specimen from the Mulligan district. The butt end of the flake is very often embedded in an oblong mass of *Triodia* resin, which forms the haft. The resin is applied while in a warm and plastic condition: not infrequently it is applied over a strip of bark, which is previously folded longitudinally and laid around the blunt extremity of the flake. In the genuine operating knives the bark rarely projects more than a few millimetres beyond the base of the resin

[1] *Proc. Linn. Soc. N.S.W.*, vol. v (2nd Series), pp. 251 *et seq.* and 289 *et seq.* (Pl. IX).

[2] *Report Horn Expedition*, part iv, pp. 96–8.

[3] *The Native Tribes of Central Australia*, pp. 592–4.

[4] *Report Horn Expedition*, p. 97.

[5] B. Spencer and F. J. Gillen, *The Native Tribes of Central Australia*, p. 593.

[6] *The Australian Aboriginal*, p. 172, Fig. 4.

[7] *Zeitschrift für Ethnolog.*, 1882, vol. xiv, p. 28. M. Bartels also presents a reproduction of the same picture (*Die Medicin der Naturvölker*, p. 298).

[8] *Proc. Roy. Soc. Victoria*, 1901, vol. xiii (New Series), Pl. XXVI, Fig. 2.

[9] *Die Eingeborenen der Kolonie Südaustralien*, Pl. XXI, Fig. 5.

[10] *Proc. Linn. Soc. N.S.W.*, 1890, vol. v (2nd Series), p. 255. *Vide* B. Spencer and F. J. Gillen, *The Native Tribes of Central Australia*, p. 589, Fig. 117, No. 10.

haft, but in the large daggers of the Arunndta, Kaitish, and Warramunga[1] tribes, long wooden hafts are attached below the resin.

The material from which a "knife" is made is supplied by any fine-grained, homogeneous rock which has the property of flaking readily upon percussion—quartzite, flint, chalcedony, common opal, hornstone and other metamorphosed rocks being among those most commonly used. Occasionally the sharp edge of a broken



FIG. 2.—OPERATING KNIVES. (*a*) QUARTZITE BLADE WITH TRIODIA-RESIN AND BARK HAFT, NORTHERN ARUNNDTA TRIBE, NORTHERN TERRITORY. (*b*) BARK-SHEATH BELONGING TO ABOVE BLADE (*a*). (*c*) SIMPLE QUARTZITE BLADE WITHOUT HAFT, DIERI TRIBE, LAKE EYRE. (*d*) GLASS FLAKE, KING SOUND, NORTHERN KIMBERLEYS.

bivalve-shell takes the place of the stone; and when the older men re-incise the urethra at initiation ceremonies, the point of a spear-blade may serve the same purpose.[2] Nowadays the natives prefer the imported bottle-glass of the European settlers: when this is obtainable, they chip off a small razor-sharp flake which they use without going to the trouble of embedding it in resin. (Fig. 2, *d*.) At the operation, the flake is held between the thumb and index-finger of the surgeon. The larger varieties of the "stone-knife" are protected by a sheath of bark, which fits over the

[1] *Cf.* B. Spencer and F. J. Gillen, *The Native Tribes of Central Australia*, p. 593.
[2] *Cf.* H. Basedow, *The Australian Aboriginal*, p. 248.

stone blade much after the same fashion as a straw envelope covers a bottle: it is kept in position by winding fur-string around it. (Fig. 2.*b*.) The small flakes are mostly wrapped in the centre of the chignon the men tie their hair into at the back of the head The operator is very particular about his knife, and does not allow anybody else to touch it. If, by accident, strange fingers should come in contact with it, the instrument is discarded, because the man believes that if it were used harm would come to the initiate. This belief is fairly general in Central Australia.[1]

Origin of Rite.

When an enquiry is made into the origin and object of this remarkable rite, the results will not be as fruitful as one may have anticipated. The general conclusion one arrives at is that this is an ancient custom of obscure genesis—as obscure, say, as the clitoridectomy practised by West African tribes—which has been handed down from father to son, from time immemorial, without preserving its traditional significance—a cult without a history. The old men will tell the enquirer that their tribe were taught the operation, and its advantages, by a deified spirit ancestor. The natives of Eyre's Peninsula maintained that "Midhalla, an imaginary being inhabiting some island, is the cause of this cruel mutilation."[2] The usual reply received by W. E. Roth[3] in Western Queensland was "Mulkari make him first time" (Mulkari is supposed to be a supernatural power who makes everything). Words similar to these are the final retort an investigator receives in nearly every instance when he attempts to push his enquiry beyond a certain point. The Arunndta have repeatedly assured me that "Altjerra been tell it," while the Aluridja maintain that Tukura introduced the custom. In the Northern Kimberleys of Western Australia, several tribes refer to the operation as "*Elaija*," which at the same time is the name of a deified being who is believed to have saved their people from extinction. Elaija, the legend claims, removed a scourge from among the vanishing tribes by performing the operation upon all male members; realizing the advantages thus acquired by the grace of Elaija, the practice has been continued ever since. A stone phallus, representing the male organ, mutilated after the method supposed to have been introduced by Elaija, is still revered as a sacred legacy throughout this region,[4] and is known as "*Kadabba*." T. E. Hardman, therefore, not incorrectly supposed that the mutilation was perhaps "simply some ancient rite connected with phallic worship."[5] Almost invariably one hears from the natives that the rite was introduced

[1] *Cf.* A. W. Howitt, *The Native Tribes of South-East Australia*, p. 667.

[2] C. Wilhelmi, *Trans. Roy. Soc. Victoria*, 1860, vol. v. p. 212. *Cf.* also C. Wilhelmi, "Sitten und Gebrauche der Port Lincoln Eingeborenen," *Aus Allen Welttheilen*, 1 Jahrg., 1870; and T. Waitz, *Anthropologie der Naturvölker*, p. 784.

[3] *Ethnological Studies, etc.*, p. 153.

[4] *Cf.* H. Basedow, *The Australian Aboriginal*, p. 287.

[5] *Proc. Roy. Irish Acad.*, 1881, i. 3rd, p. 73.

for curative purposes, that is, to bring relief to sufferers, but precisely what the morbid condition of the original patient or patients was has long been forgotten. Only in the Northern Kimberleys was it explained to me that the symptoms of the ancestral sufferers were associated with sensations of hotness similar to what one might imagine to have been a rise in temperature in consequence of acute inflammation. Milne Robertson came to this opinion many years ago. "I am inclined to think," he writes,[1] "that these operations were first performed to give relief in cases of inflammation of the urethra, and that this rude surgery gradually became a custom." This being so, one is naturally anxious to speculate as to what may have been the exciting cause of such a local inflammatory process.

The letting of blood is often resorted to for no other reason than to cure or to be cured,[2] the favourite points at which the fluid is drawn being the subincised urethra in the male and one of the *labia minora* in the female. B. S. Corney[3] points out that in Fiji subincision is undertaken in "cases of lumbar rheumatism and in the sequelæ of catarrhal fever, such as haric pneumonia, mild but painful pleuritis, and various neuralgic affections, and in disease of the sacro-iliac joints." The belief there is that "by incising a dependent portion of the trunk, such as the perinæum, the abdomen is relieved from an accumulation of blood about its fundus." But there is no evidence to even suggest that this belief exists in Australia.

From a careful consideration of the facts at our command, it would appear that the rite of subincision originated on the north coast of Australia, that is, in a tropical region. Whether or no, the known geographical distribution of the rite includes the whole of the Australian tropics except the Port Darwin area and the north-east of Queensland, as well as the greater portion of the sub-tropical and hot region all over the continent. It needs no stretch of imagination to assume that acute inflammations of the prepuce, glans, and urethra might periodically have seriously affected many of the male members of the tribes. In the absence of a knowledge of the advantages of hygienic modes of life, the mere decomposition of any accumulated smegma would be sufficient to produce distressful conditions of *phimosis*, *paraphimosis*, *balanitis* and *urethritis*, which here and there would have led to a complete obstruction of the natural flow of urine. When, in addition, the microbe makes its appearance, the symptoms gain in virulence. Quite apart from ordinary strictures, such as may follow any chronic urethritis, I have seen some very serious cases of gonorrhœal and other infections in which the œdematous condition of the prepuce so thoroughly sealed the meatus that not a drop of urine could be passed by the patient*.[4]

[1] *Report upon Certain Peculiar Habits, etc.*, 1879. *Vide* R. Etheridge, *Proc. Linn. Soc. N.S.W.*, vol. v, pp. 119–20.

[2] *Cf.* B. Spencer and F. J. Gillen, *The Native Tribes of Central Australia*, p. 464.

[3] *Report Austral. Assoc. Adv. Science*, vol. ii, p. 647.

* [4] See list of photographs, p. 156, No. 2.

The outlet of the customary flow being obstructed by an obvious swelling, and the patient suffering the intense pain and discomforts of a distended bladder, it seems only natural that the primitive surgeon would endeavour to re-establish the outlet by operative means. Any incision decided upon would aim at picking up the orifice and following up the swollen canal. There is a possibility, which is just feasible, that Nature in the first place instructed the tribesmen when necessity forced them to adopt decisive and extreme measures. A case of over-distended bladder, for instance, might, under exceptional circumstances, have led to a rupture of the urethra behind the obstruction. When in the future, therefore, the natives were confronted by a similar predicament, their own intuition would suggest to bring about the same result artificially. The acquired art might easily have developed into a widespread custom.

Again, the fillip may have been entirely accidental. A naked hunter, hotly pursuing his game through the bush, cannot altogether avoid the risk of occasionally finding a foreign body (splinter, bur, grass seed, insect, grit, etc.) lodged in his urethra. This accident would be most likely to happen anywhere along the northern coastal belts, where endless plains are thickly decked with tall, rank, spear-grass (*Heteropogon insignis*). At certain times of the year these districts are a source of great annoyance to anybody who travels through them, on account of the incessant showers of arrow-pointed seeds which fall upon him and penetrate his skin. The European suffers as much as the aboriginal, because the seeds readily work their way through any garments he is wearing. When the points have embedded themselves in the skin, the shafts of the seeds break off. Unless the points are immediately removed, the surrounding tissues become painfully inflamed.

A similar risk is taken by a native when he wades through waterholes and rivers in tropical Australia, which abound in all sorts of crawling and burrowing crustaceans, insects, and other vermin. The hunter often spends hours at a time in the water, and for this reason he might occasionally find that one of the creatures has entered his urethra. The possibility of this happening is not entirely speculative, for we find that Karl von den Steinen[1] has recorded the fact that in Brazil the waters are inhabited by a small, transparent fish (about 2 cms. long) which has the objectionable habit of finding its way into the urethra of any bathing natives. The fins of the fish being directed backwards, like the barbs of a spear, it becomes a difficult matter to remove the intruder once the spines have embedded themselves in the mucosa of the canal. Occasionally simple immersion of the penis in hot water may succeed in removing the fish, but in most cases an operation is necessary, by which the urethra is slit longitudinally in much the same way as the Australian natives perform the subincision.

[1] Karl von den Steinen, *Durch Central Brazilien. Expedition zur Erforschung des Schingu im Jahre* 1884 (Leipzig, 1886). I have not seen the original description, but take the reference from Max Bartels' *Die Medicin der Naturvölker*, 1893, p. 298.

Anderson Stuart[1] aptly remarks that if any such wounds or lacerations of the urethra occur among the Australian natives, they would be badly tended and in all probability lead to permanent fistulas.

There is yet another aspect, and one which has, perhaps, not received the consideration it merits—that is, that the rite has a prophylactic significance. Whether the operation was in the first place entirely remedial and automatically followed an original inflammatory condition (œdematous or suppurative) or trauma (*e.g.* impact with a foreign body), or whether it was imitative of a congenital malformation (*hypospadias*) or of the anatomical peculiarity displayed by the grooved organ of birds[2] (*e.g.* the emu) and reptiles, the ultimate effect of the mutilation cannot fail to be without certain hygienic benefits to an individual living under aboriginal conditions. The Aluridja Tribe, as a matter of fact, declare that both circumcision and subincision were taught them by ancestral kangaroo-men for the purpose of "making them more clean": both ceremonies are in consequence referred to as "*Arrárarra*," a word embodying the appellation of the familiar marsupial. A similar explanation is given by A. W. Howitt[3]: "The Dieri say, according to Mr. Gason, that the object of the *Kulpi* operation is 'cleanliness,' and that without it no one can be a thorough man."

There can be no doubt about the mucosa altering its physiological condition after the urethra has been opened by incision. The moist, warm, reddish membrane changes after direct exposure to the atmosphere and eventually becomes dry, cold, and callous.[4] In the cases he examined, Anderson Stuart[5] found that "the exposed urethral mucosa had the bluish, injected, hardened appearance common to mucous membranes in such circumstances." The best analogy one might suggest is to compare the exposed portion of the human lip with the inner linings of the mouth. In brief, the original mucosa of the urethra, physiologically considered, becomes more of the nature of a true skin, and in that state is much more resistant to infection.

As one might expect, the slitting of the penile urethra has not been without effect upon the method of micturition. The man either stands erect, with his legs wide apart and body bent slightly forward, or he squats,[6] usually over a shallow hole which he scoops into the sand to receive the urine.[7] Miklucho-Maclay[8] maintains that when adopting the former attitude, the man lifts his penis by hand and micturates like the female member of his tribe. Personally, I have never observed any

[1] *Proc. Roy. Soc. N.S.W.*, vol. xxx. p. 121.

[2] *Cf.* E. C. Stirling, *Report Horn Exped.*, part iv. p. 34; and Milne Robertson, *Report upon Certain Peculiar Habits, etc.*, Perth, 1879.

[3] *Journ. Roy. Anthrop. Inst.*, vol. xx. p. 87.

[4] *Cf.* B. S. Corney, *Report Austral. Assoc. Adv. Science*, vol. ii. p. 647.

[5] *Proc. Roy. Soc. N.S.W.*, vol. xxx. p. 121.

[6] E. C. Stirling denies this (*Report Horn Exped.*, part iv. p. 27).

[7] *Cf.* B. Spencer and F. J. Gillen, *The Native Tribes of Central Australia*, p. 256; and W. E. Roth, "North Queensland Ethnography" (Bulletin No. 14), *Records Austral. Museum*, vol. viii. No. 1. p. 73.

[8] *Zeitschr. für Ethnolog.* (Verhandl., 1880, vol. xii. p. 86.

manipulation of this kind. The women, it might be mentioned, make use of either method described of the men.

Some writers have advanced the theory that the operation of subincision is the outcome of lustful motives, but proof in support of it is wanting. The idea no doubt originated through the statement one may elicit from the women to the effect that a mutilated organ gives them more enjoyment than one not so treated. Miklucho-Maclay writes in this connection: "Eine partielle Spaltung der Urethra, oder richtiger, eine Erweiterung des Orificium urethrae (ein Einschnitt langs der unteren Mittellinie der Glans penis) soll von den Eingeborenen des Nord-West Küstenstriches Australiens geübt werden, hauptsächlich zum Zwecke, das wollustige Gefühl beim Coitus zu steigern."[1] Yet in the same article he denies that the operation makes any sensual difference, but believes it to shorten the duration of the coitus. "Die Operation," he says, "scheint sonst weder auf die Geschlechtslust (nach der Häufigkeit der Beiwohnungen beurteilt), noch auf den Coitus selbst einen merklichen Einfluss zu haben . . . wohl aber ist, wie ich glaube die Dauer des Coitus eine kürzere, da in Folge der Operation die Ejaculation früher erfolgen muss, als beim unversehrten Gliede."[2]

H. Klaatsch in 1907 proffered an explanation to the effect that, in the Broome district of Western Australia, the operation is performed for homo-sexual purposes—the youths are said to carry on a peculiar form of masturbation, in which the sub-incised urethra of one individual serves another in the place of a female. A lengthy description is given, from which the following excerpts are taken. "Constat in agro qui Broome uocatur iuuenes eosque pueros qui uel iam facti sint puberes uel mox futuri, uidelicet decem nati annos usque ad quattuordecim, mutuo inter sese masturbari solere. . . pueri profecto penem cum primum erigi coeptus sit in uirilis penis foramen, quod ad id auctum usque ad intimam scroti partem pateat, inseri solere; puerum humi supinum iacentem uiri pene manibus comprehenso (quasi extrema digitalis tegumenti parte frices digitum), suum circumfricare penem usque eo dum utrique effundatur semen."[3]

"The explanation of this custom," continues Klaatsch, "is the difficulty experienced by the younger members of some tribes in getting young women, who are possessed by the old men." Klaatsch looks upon W. E. Roth's[4] observation in the Boulia and Pitta districts of Queensland, that a subincised man is locally known as "one possessing a vulva," as possible corroboration. This etymological peculiarity is fairly widespread. The Arrabonna, for instance, in Central Australia, refer to the operation of subincision as "*Yerrupa*." "The organ of the female," remarks

[1] *Loc. cit.*, p. 87.
[2] *Loc. cit.*, p. 89.
[3] *Report Austral. Assoc. Adv. Science*, vol. xi, pp. 581–2.
[4] *Ethnological Studies*, etc., p. 180.

R. Helms,[1] "is therefore sometimes called by that name, although the proper name for the vagina is pintha."

Although I do not for a moment doubt the accuracy of the statement by so careful an observer as my late esteemed friend and teacher, Hermann Klaatsch, I am inclined to regard the practice described by him more as an act of perversion than a general custom. To me the explanation seems physiologically more or less impossible. As we shall see later, the subincised urethra could only be used in the way described by Klaatsch whilst the organ remains in its normal state. But one can scarcely imagine how a youth could lend himself, even passively, to an indulgence such as this without becoming himself excited: and so soon as this happens, the swelling of the *corpora cavernosa* does away with the slit or groove, and the theory collapses.

One repeatedly hears the doctrine promulgated that the rite of subincision was instituted for the purpose of checking or controlling the natural increase of population among the tribes practising it. One hears also that a limited number of strong and virile fellows are spared in order that the community may be kept at a certain numerical strength and physical standard. E. J. Eyre,[2] for instance, believed that "this extraordinary and inexplicable custom must have a great tendency to prevent the rapid increase of the population," and that "its adoption may perhaps be a wise ordination of Providence, for that purpose, in a country of so desert and arid a character as that which these people occupy." This view is supported by many others, a number of whom I shall cite. Miklucho-Maclay[3] also thought that the operation is performed by the tribes so that there shall not be too many children. "Besonders schwache Männer seien dieser Operation ausgesetzt," he says, "und von Zeit zu Zeit schliefen die Weiber der operierten bei nicht operierten Männern, um befruchtet zu werden." Out of 300 men who are operated upon, he estimates that only three or four keep the population going. A similar statement is made by C. Lumholtz,[4] who, however, maintains that five per cent. of the young men are spared. "In other tribes," he continues, "it is the husband who, after becoming the father of one or two children, must submit to the requirements of the law. . ." A. G. B. Ravenscroft,[5] on the other hand, asserts that of the Tjingali tribe only two per cent. of the males have their urethral canal laid open. Even according to A. W. Howitt,[6] one would infer that the rite is evidently not essential as regards all the initiated.[7] But perhaps the most remarkable information is supplied by E. M. Curr[8]

[1] *Trans. Roy. Soc. S. Austral.*, vol. xvi. part iii. p. 278.

[2] *Journs. Expeds. Disc. Cent. Austral.*, vol. i. p. 213.

[3] *Zeitschr. für Ethnolog.*, vol. xii. p. 86; and vol. xiv. p. 27.

[4] *Among Cannibals*, pp. 47–8.

[5] *Trans. Roy. Soc. S. Austral.*, vol. xix. p. 121.

[6] *Journ. Roy. Anthrop. Inst.*, vol. xx. p. 85.

[7] *Cf.* also Kempe in E. C. Stirling, *Report Horn Exped.*, part iv. p. 33; E. Clement, *Publications Royal Ethnol. Museum*, Leiden, series ii. No. 6. p. 13 (reprinted from *Internat. Archiv für Ethnog.*, vol. xvi. 1903).

[8] *The Australian Race*, vol. i. pp. 72–4.

to the effect "that when children are desired by the tribes, the operation on some of the males is omitted. By these means the number of the tribe can always be kept up: or, if a massacre or sickness has reduced it, be restored after a generation to its pristine strength."

The belief that a certain number of men were intentionally allowed to escape the operation in order that they might automatically keep the tribal population in numerical equilibrium or increase it, if need be, led to the invention and general use of the term "Bucks" for men who were not subincised.[1] We are not surprised to read, therefore, that subincision is regarded by some as a "mitigated form of castration."[2]

J. M. Creed[3] seems to be convinced that the operation renders the men "for the future sterile, but not impotent," and that, therefore, it might be called "the most perfect form of Malthusianism practicable." Although there are many, even at the present day, who are of the same opinion, others have conclusively proved the assumption to be incorrect. E. T. Hardman[4] was one of the first to declare that the rite can hardly be considered from the Malthusian standpoint, because "every boy is so treated, and the married men have no lack of families." Milne Robertson[5] is also opposed to the idea that the operation is practised for the purpose of limiting reproduction, while B. S. Corney[6] writes that "the origin of this custom, often stated to lie in the wish to keep down the population in an infertile country, admits of the widest doubts." Among more modern writings, the consensus of opinion is even more strongly expressed against the theory that the rite of subincision in Australia is the outcome of Malthusianism. Anderson Stuart[7] admits that "there will generally be upon the whole lessened chance of fecundation, but in particular cases it may not be very marked at all . . ." And E. C. Stirling[8] is no less emphatic in his dictum: "I cannot see that, on anatomical grounds, procreative efficiency need be, in him, greatly impaired by the operation." W. E. Roth[9] explains that the ordinarily alleged object of this peculiar mutilation is to lessen the struggle for existence, by putting a check on the population: he, however, does not subscribe to the theory and proceeds to prove that it is untenable. Nowhere could Roth find traditional evidence among the Queensland tribes that the operation was considered a preventive to procreation.

[1] *Cf.* J. C. Cox in reference to some Queensland tribes: "The term 'Bucks' has been applied to those of the males of these tribes who are supposed to have been left perfect" (*Proc. Linn. Soc. N.S.W.*, vol. v, p. 634).

[2] J. G. Edge, "The Mika Ceremony, Wallwarra (Walookera) Tribe," *Science of Man*, ii, p. 105 (*cit.* G. Roheim, *Australian Totemism*, p. 442).

[3] *Austral. Med. Gaz.*, 1883, vol. ii.

[4] *Proc. Roy. Irish Acad.*, 1881, vol. i (3), No. 1, p. 73

[5] *Report upon Certain Peculiar Habits, etc.*, Perth, 1879.

[6] *Report Austral. Assoc. Adv. Science*, vol. ii, p. 650

[7] *Trans. Roy. Soc., N.S.W.*, vol. xxx, p. 123.

[8] *Report Horn Exped.*, part iv, p. 34.

[9] *Ethnological Studies, etc.*, p. 179.

"One thing is clear," say B. Spencer and F. J. Gillen.[1] "and that is, that at the present day, and as far back as their traditions go, the Arunta natives at least have no idea of its having been instituted with the idea of its preventing or even checking procreation. In the first place it does not do this. Every man without exception throughout the Central area, in all tribes in which the rite is practised, is subincised."

So far as my own observations go, I can positively state that the singular form of penile urethrotomy we are discussing is not intended, nor anywhere regarded, by the Australian natives as a method of birth-control. A subincised aboriginal may become a paterfamilias practically as readily as any other man whose tribe or race exempts him from the mutilation. To claim that the operation was invented in response to the conscious necessity for "moral restraint," and exclusively in accordance with the principle of Malthus, is a theory which falls flat at the very beginning of investigation; for if such were the case, it would only be reasonable to expect, as Stirling[2] correctly points out, that the rite should be "limited to hunger-stricken districts." But we have already had occasion to note that this is not so: on the contrary, the rite is rigorously adhered to in some of the most productive areas of the Australian tropics, as well as in the barren stretches of the interior. Moreover, to adopt the Malthusian idea as the vital factor which prompted the introduction of subincision would mean that we credit the natives with a thorough understanding of the physiology of procreation. This is, of course, asking much of them. B. Spencer and F. J. Gillen, in fact, state that "they have no idea of procreation as being directly associated with sexual intercourse, and firmly believe that children can be born without this taking place."[3] Other authors have recorded the same belief among the aborigines; and I, too, observed it firmly rooted in the minds of the Port Darwin and other northern tribes.[4] It is, however, outside the scope of the present notes to discuss the aboriginal ideas on procreation: for information on this matter I would refer the readers to the admirable accounts contained in the works of B. Spencer and F. J. Gillen, W. E. Roth, B. Malinowski, J. G. Frazer, and others. Even in the tribes whose notions are less dogmatic, I have already reported: "The old men believe in the duality of human creation—the spiritual and the material: sexuality is regarded as the stimulus of corporeal reproduction, but the spirit quantity is derived through mystic and abstract influences controlled by a 'totem'—spirit or Knaninja."[5] Here again it is obvious that, according to the aboriginal's idea, conception is impossible without the combined operations of the two factors: in other words, pregnancy can follow sexual intimacy only after the supernatural influence

[1] *The Native Tribes of Central Australia*, p. 264 (*vide* also *The Northern Tribes, etc.*, p. 330).

[2] *Report Horn Exped.*, part iv. p. 33.

[3] *The Northern Tribes of Central Australia*, p. 330.

[4] *Trans. Roy. Soc. S. Austral.*, vol. xxxi. p. 5. From the tribes east of the Port Darwin district, P. Foelsche obtained the information that subincised men were preferred by the women, because, though not impotent, they could not beget children (*Trans. Roy. Soc. S. Austral.*, vol. v. p. 18).

[5] *The Australian Aboriginal*, pp. 284–5.

of a spirit-deity has made itself felt. For a similar reason it does not appear likely that prevention was the motive of the operation if it originated from observations made casually upon an individual with a congenital malformation (*hypospadias*), even if, as Anderson Stuart[1] remarks, the union of the sexes was followed by unusually few children. Accepting the above as the aboriginal's views, the idea of his having introduced a rite, such as subincision, for the purpose of checking the tribal population, would appear to us as contradictory as it would to him absurd.

Tribal law recognizes homicide as a justifiable intervention when the people are pressed by drought or otherwise. The first to suffer are the helpless old and infants, the latter especially if the mother has a number of small children to sustain. J. D. Woods[2] thought the operation of subincision was calculated to thin the race without actual homicide; but under the conditions mentioned, the guilt of murder does not burden the conscience of an aboriginal. When he finds there is need to check the growth of his family (or tribe), a much simpler and more reliable method than any mutilation to his person could afford stands at his disposal, *viz.* infanticide. "And here we may say," B. Spencer and Gillen add, "that the number is kept down, not with any idea at all of regulating the food supply, so far as the adults are concerned, but simply from the point of view that, if the mother is suckling one child, she cannot properly provide food for another, quite apart from the question of the trouble of carrying two children about."[3]

Method of Coition.

To argue upon the significance of subincision from the Malthusian point of view is futile therefore in more than one sense. The strongest opposition is rendered by the fact that the operation, as a method for preventing conception, is definitely known to be quite ineffective. Admitting this is an established fact, which can be verified any day among the tribes still living, it becomes a matter of scientific importance to know whether the aboriginal adopts a regular and peculiar method of copulation.

Observations upon this subject are scarce, and some of the earlier accounts are misleading. I do not mean to dispute the accuracy of early investigation, but it is a well-known fact that men of low moral character used to make a habit of giving quantities of rum, gin, and other spirituous liquors to the natives who would then, in a semi-intoxicated condition, be persuaded or forced to perform in a way which may have satisfied the lustful humour of the white villain, but was opposed entirely to the sense of decency and modesty of a primitive people. But an inspiration emanating from the mind of a drunken white man, under conditions such as these, could never be admitted scientifically as a custom of the coloured man, even though the latter had to carry it into effect practically.

[1] *Trans. Roy. Soc. N.S.W.*, vol. xxx. p. 121.

[2] *The Native Tribes of South Australia*, 1879, p. xiv.

[3] *The Native Tribes of Central Australia*, p. 264. Cf. also *The Northern Tribes, etc.*, p. 330.

One hears rather frequently that the *modus caninus* is generally favoured and widely practised by the Australian aborigines. I am in a position to give this statement an emphatic denial. In describing the aborigines of St. Vincent's Gulf near Adelaide, Kohler even asserts that the genitalia of the female are located more posteriorly in the aboriginal, in consequence of which the usual method of coition adopted by the men is *a posteriori*. He writes[1]: "Die Weiber sind mager, mit hängenden Brüsten und etwas mehr zurückstehenden Genitalien, daher die Männer, was übrigens bei den meisten Australiern Sitte ist, die Begattung von hinten vollziehen." Again I cannot agree, because I find "the pudendum, if anything, slightly more anterior" in the aboriginal than in the European.[2]

H. Kempe, a missionary at the Finke River, declared that the couple adopt a lying posture[3]: "Der Beischlaf wird . . . bei den central australischen Schwarzen am Finke Creek liegend vollzogen." This description is so short that it is difficult



a. *b.* *c*

FIG. 3.—METHOD OF COITION. (*a*) AND (*b*) AFTER MIKLUCHO-MACLAY: (*c*) AFTER W. E. ROTH.

for the reader to form any real picture of the method referred to. Another mode is mentioned by H. Ploss which is said to have been observed by Moore Fletcher in Western Australia, and is locally known as "*Mu-yang*": "Die Weise ihrer Begattung ist sitzend. Gesicht gegen Gesicht." Ploss also supplies further particulars from another, independent source: "Auch versicherte Oberländer, der sich in Australien längere Zeit aufhielt, dass sich dort die Paare im Sitzen auf der Erde hockend Brust an Brust, bei eigenthümlicher Verschränkung der Beine, umfassen."

Miklucho-Maclay[4] was the first to publish a diagrammatic sketch of the act as it had been described to him by a pastoralist in Sydney. He explains: "Der hockende Mann zieht die auf dem Rücken liegende Frau an sich, bis die Geschlechtsteile einander treffen. Zuweilen wird der Coitus in dieser Stellung (Fig. 3, *a*), der Mann hockend, die Frau liegend, zum Abschluss gebracht: in den meisten Fällen aber ist die

[1] T. Waitz-Gerland, *Anthropologie der Naturvölker*, vol. vi, p. 714 (Monatsberichte Geogr. Gesellsch., Berlin, 3, 44). Miklucho-Maclay, *Zeitschr. für Ethnol.*, 1880, vol. xii (*Verhandl.*), p. 87. H. Ploss, *Das Weib in der Natur, etc.*, p. 408.

[2] *The Australian Aboriginal*, p. 20.

[3] In H. Ploss, *Das Weib in der Natur, etc.*, vol. i, p. 408. *Cf.* H. Kempe, *Mittheilungen des Vereins für Erdkunde*, p. 54, Halle, 1883.

[4] *Zeitschr. für Ethnolog.* (*Verhandl.*), 1880, vol. xii, p. 87. *Cf.* also H. Ploss, *op. cit.*, vol. i, p. 408.

Stellung (Fig. 3, *a*) ein Praeliminarium, und die Begattung geschieht in der Stellung (Fig. 3, *b*)." Corroborative evidence by A. Morton is also adduced.

Sixteen years later, R. Helms, upon his return from the Elder Expedition, recounted the following description given him by the Warrina (Arrabonna ?) tribe: "Hic mihi enarravit quomodo se ponant. Mulier ut videtur corpus ita ponit ut vir, genibus suppositis, manibus lumbum prehendere possit: unde fit ut genitalia quam proxime conjugantur: eo modo fieri potest ut semen in vaginam introire possit."[1]

So far as the north-west central tribes of Queensland are concerned, W. E. Roth[2] writes: "The peculiar method of copulation in vogue throughout all these tribes does not prevent fertilization, notwithstanding the mutilation of the male. The female lies on her back on the ground, while the male with open thighs sits on his heels close in front; he now pulls her towards him, and raising her buttocks, drags them into the inner aspects of his own thighs, her legs clutching him round the flanks . . ., while he arranges with his hands the toilette of her perineum and the insertion of his penis. In this position, the vaginal orifice, already enlarged by the general laceration at initiation, is actually immediately beneath and in close contact with the basal portion of the penis, and it is certainly therefore a matter of impossibility to conceive the semen as being discharged for the most part anywhere but into its proper quarter." Roth's description is accompanied by a small line drawing (Fig. 3, *c*).

It must not be supposed that the aborigines all over Australia invariably adopt one and the same method when yielding to a sexual impulse, especially nowadays when so much corruption of their original codes of morality has followed the temptations of European civilization. Nevertheless, investigation finds that, by some far-reaching inter-tribal influence, a method has been evolved which fundamentally is subject to very slight variation over the whole region where subincision is the rule. One is almost inclined to assume that, owing to the necessity of ensuring the tribal populations, Nature overcame the drastic effects of the mutilation, whatever the original motive may have been, by instigating so regular a system.

When a couple is about to indulge, the female, by request or habit, always takes her position by lying with her back upon the ground. The man squats between her legs, facing her, and lifts her thighs on to his hips. Leaning forwards, he steadies his body with his knees on the ground and accommodates the parts with his hands. This accomplished, the woman grips him tightly around his flanks or buttocks with her legs, while he pulls her towards his body with his hands around her neck or shoulders. My description is that of the Wongapitcha method, but it may be considered as typical of other Central, as well as of Northern and North-Western, tribes*.[3]

[1] *Trans. Roy. Soc. S. Austral.*, vol. xvi, part iii, p. 278.

[2] *Ethnological Studies, etc.*, p. 179.

[3] *See* list of photographs, p. 156, Nos. 6 and 7.

Both A. Morton[1] and Anderson Stuart[2] maintain that, at the conclusion of the act, the woman deliberately empties the vagina by jerking the pelvis forwards; the object mentioned is that she thereby endeavours to prevent impregnation. "Nachdem der Mann aufgestanden war . . ." writes H. Ploss. "richtete sich auch die Frau auf, stellte die Beine aus einander, und mit einer schlängelnden Bewegung des Mittelkörpers warf sie mit einem kräftigen Ruck nach vorne ein Convolut von weisslichem Schleim (Sperma ?) auf den Boden."

I remember discussing this point some years ago with my friend the late F. J. Gillen, who declared that he had never heard of the custom, and was inclined to doubt that it existed, at any rate so far as the tribes he was familiar with were concerned. I have not recorded it from any part of Australia; and, indeed, in view of what has already been said about the aboriginal's idea of conception, one would not expect to find so cute a knack in vogue among these simple people. Experienced prostitutes in other parts of the world are said to have developed this method to some degree of perfection.

According to H. Ploss,[3] a squatting method of coition is used by the Marege tribe of North Queensland, the Ke and Arru Islanders, the Dyaks of eastern Borneo, and certain anthropoids. P. Wirz,[4] in fact, describes a method from Papua which he regards as "normal"; it is apparently not unlike the Australian: "Die Stellung die beim Coitus eingenommen wird ist die normale, d.h. die Frau mit dem Rücken auf dem Boden liegend, der Mann vor ihr knie-end."

Considering now the Australian method of coition in conjunction with the effects of the mutilation which forms the substance of this paper, it is obvious that through the position adopted by the man, a fair proportion of the ejected spermatic fluid will find its way into the vagina. In a state of erection, the mutilated organ becomes very wide: it is only natural that after the lower connecting wall of the urethral canal has been severed, the *corpus penis* in this condition spreads itself laterally. "All same frog" is the analogy the natives supply for the form presented by the swollen *corpora cavernosa* surmounted by the glans: and it is undoubtedly appropriate.

Through this lateral distention, the receiving vagina will gape more than it would under normal conditions, and so there is greater facility for the fluid to enter.[5] And

[1] In Ploss, *Das Weib in der Natur, etc.*, vol. i, p. 408. *Cf.* also Miklucho-Maclay, *Zeitschr. für Ethnolog.* (*Verhandl.*), vol. xii, p. 88; *Trans. Roy. Soc. N.S.W.*, vol. xxx, p. 122.

[2] *Trans. Roy. Soc., N.S.W.*, vol. xxx, p. 122.

[3] *Das Weib in der Natur, etc.*, vol. i, pp. 408–9. *Vide* also J. G. F. Riedel, *De sluik- en kroesharige Rassen tusschen Selebes en Papua*, s'Gravenhage, 1886.

[4] *Nova Guinea. Résultats des Expéds. Scientifiques à la Nouvelle Guinée*, vol. xvi (Ethnographie), livr. 1, p. 75, Leiden, 1924.

[5] Some of the earlier observers were of a different opinion. J. M. Creed, for instance, writes: "In copulation, the semen is, of course, emitted at the inferior end of this opening, and external to the vagina of the female, so that impregnation by sexual intercourse with the men so operated on is impossible" (*The Austral. Med. Gaz.*, vol. ii, p. 96). *Cf.* also Miklucho-Maclay, *Zeitschr. für Ethnolog.* (*Verhandl.*), vol. xii, p. 86.

more, the tribes who practise subincision in most cases also submit the female to a corresponding mutilation, which further dilates the passage. In some cases this artificial dilation is trivial and simply amounts to a defloration of the hymen. "The instruments, if any, which are used for the operation vary according to locality. In the central areas (Aluridja, Wongapitcha, Kukata) an ordinary stone-knife with resin haft is used. The Victoria desert tribes employ cylindro-conical stones from 6 ins. to 8 ins. long, and from 1½ ins. to 2 ins. in diameter. Among the tribes of the Northern Kimberley districts of Western Australia no real instrument is used at all, but the operator winds the index and middle fingers of his right hand together with a long piece of fur-string; and this device answers the same purpose as the above-named instruments."[1]

At the operation, the girl is requested to lie flat on her back, and her head is placed upon the lap of one of the men present, who squats to keep it there. Other men take hold of her arms and legs. When the correct moment of the ceremonial has arrived, the man at the initiate's head covers her face with his hands, while others lift her legs, double them at the knees and press them against her abdomen. The operator appears quickly on the scene and, without further ceremony or hesitation, inserts the blade of the instrument (or his fingers, as the case may be) into the vaginal orifice, at the same time making a few crude cuts by applying pressure upon the posterior wall. If the tied fingers are used in place of the bladed instrument, they are forced into the passage and rotated two or three times. "The results of the former operation are often rather serious. In many cases the *frenulum*, and with it a portion of the perineum, is gashed; and occasionally the cut is extended well into the vagina. A single case has come to my notice of a recto-vaginal fistula resulting from this operation.[2]

W. E. Roth makes the following comment: "It is possible that the cutting of the perineum and the general laceration, etc., of the female was originally a matter of convenience for the male, the mutilation in her case subsequently coming to signify her fitness, capability, or experience, in the art of the full enjoyment of copulation, and that, on the principle of a form of mimicry, the analogous sign was inflicted on the male to denote corresponding fitness on his part."[3] B. Spencer and F. J. Gillen reply: "This still leaves unexplained the mutilation of the women, and it would seem to be almost simpler to imagine that this was a consequence of the mutilation of the men."[4] I agree with the latter authors in regarding the sub-incision of the male as the primary operation, and with Roth to the extent that the female mutilation was instituted for the convenience of the male. Whether or no,

[1] H. Basedow, *The Australian Aboriginal*, pp. 255–6.

[2] *Cf.* W. E. Roth's observations on the Leichhardt-Selwyn district natives. "A very old man performs the operation. "This he does by slitting up a portion of the perineum with a stone knife and sweeping his three fingers round inside the vaginal orifice" (*Ethnolog. Studies, etc.*, p. 174).

[3] *Op. cit.*, p. 180.

[4] *Native Tribes of Central Australia*, p. 263.

the operation certainly enlarges the female passage, and so assists the semen to arrive at its intended destination.

Milne Robertson maintains that the edges of a subincised organ are brought together *in coitu*, forming a temporary channel, as is the case in birds; but Anderson Stuart has already shown that this cannot take place because "the bulging of the *corpora cavernosa* will open the urethral groove wider and wider."[1]

Under the circumstances, it seems hardly necessary to discuss further the process by which a woman is impregnated when intimacy takes place with a subincised man. A number of well-known cases could also be cited from works on forensic medicine, in which the mere deposition of semen at the *orificium vaginæ* has been sufficient to allow the spermatozoa to ascend and impregnate the ovum in the uterus. But with the subincised aboriginal, the chances are all the more favourable because a goodly portion of the seminal fluid actually enters the vagina. Moreover, even if it did not, Anderson Stuart[1] makes the position very clear when he says "the base of the intromittent organ and the pudenda will be so bathed in the fluid that the movement of the parts will certainly smear the lower part of the vagina with it."

[Appended is a descriptive list of photographs, which have been filed for reference in the Library of the Institute. The passages in the text, to which these photographs relate, are indicated by an asterisk (*).

DESCRIPTION OF PHOTOGRAPHS.

1. Pseud-hermaphroditism, Arunndta tribe, Horseshoe Bend, Central Australia.

2. *Balanitis* and *posthitis*. Yantowannta tribe, Cooper Creek. The prepuce is greatly swollen and infiltrated, causing a painful *phimosis*; also a swelling in the hypogastric region.

3. Subincised penis. Worora tribe, Port George IV, Northern Kimberleys of Western Australia. The urethra has been laid open by a simple median incision.

4. Subincised penis, Denial Bay, South Australia. Three incisions have been made to remove the inferior wall of the penile urethra, two longitudinal and one transverse (immediately above the scrotum). The remaining skin-edges were subsequently treated with a firestick.

5. Subincised penis, King Sound, Northern Kimberleys of Western Australia. The urethra *mucosa* is wrinkled, a result of the contraction of the organ after the operation.

6 and 7. General method of *coitus* adopted by tribes who practise subincision (Wongapitcha tribe).]

[1] *Trans. Roy. Soc. N.S.W.*, vol. xxx, p. 122.

THE TURKANA OF KOLOSIA DISTRICT.

[With Plates III and IV and a Map.]

By E. D. Emley.

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Foreword.

In submitting these notes, I feel that a few words regarding the comparatively recent history of the district will not be misplaced.

The Kolosia Turkana first came into contact with the Kenya Administration in 1906, when a deputation, under Headman Ajuga, reported to the District Commissioner, Baringo, and asked for protection from the Abyssinians. On receiving

this request, the Kenya Government informed Ajuga that it would be glad to protect the Turkana, provided that they paid tax. This was agreed to, but tax collection amongst a raw nomadic tribe was soon found to be a most difficult task, and very little tax was obtained.

About two and a-half years later, however, Mr. Kittermaster, the present Governor of Somaliland, was appointed Acting District Commissioner of Turkana.

At the end of 1917, the Turkana, as a result of repeated raids on the Suk, were subjected to punitive expeditions, and the military remained in charge of the district until January, 1926, when the writer took over the district from Lieut. the Hon. N. A. S. Lytton-Milbanke of the 3rd King's African Rifles.

1.—COUNTRY, ORIGIN, AND NEIGHBOURS.

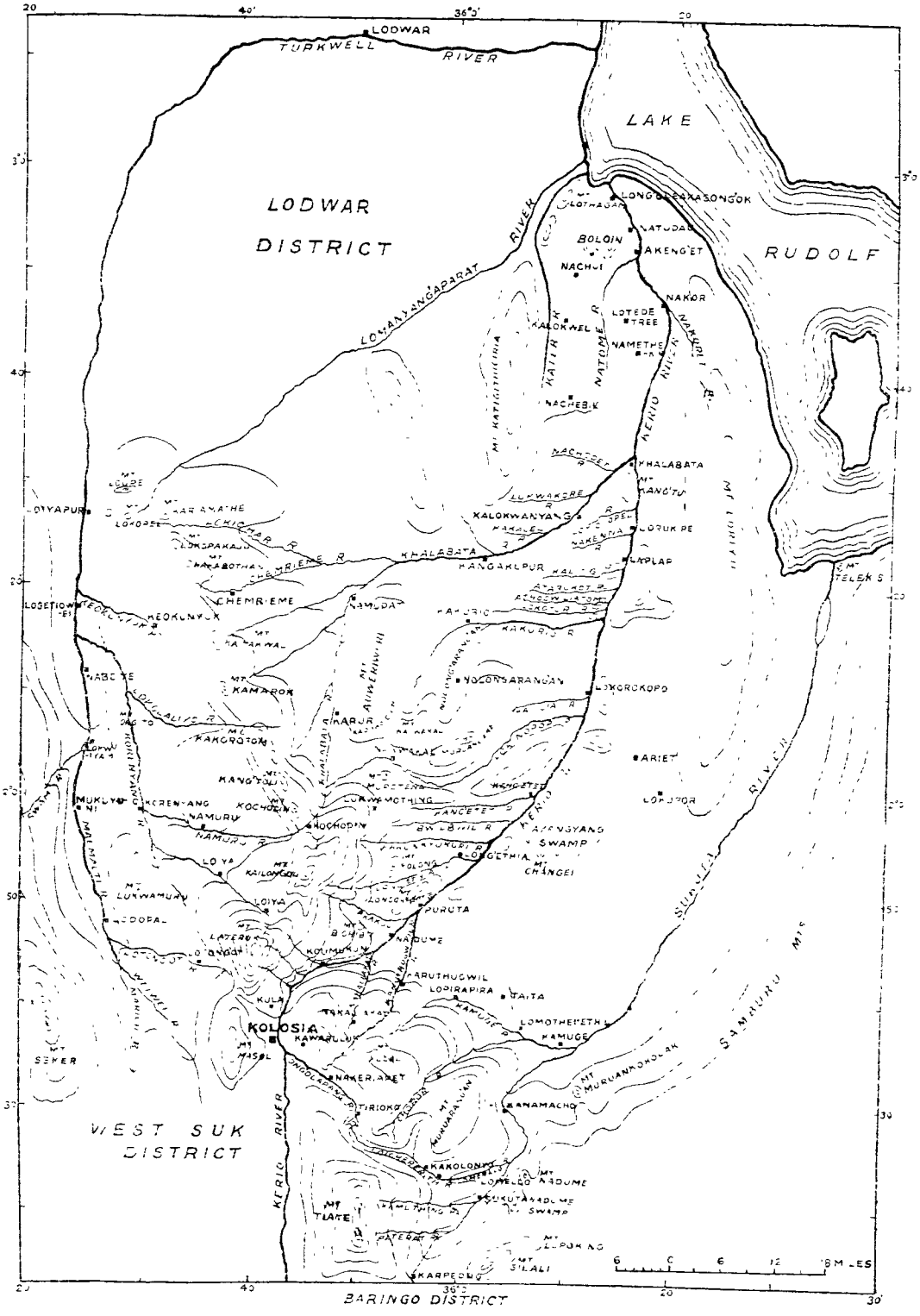
i.—*Geographical.*

(*a*) *General.*—The Turkana live in the extreme north-west corner of Kenya Colony, their country being bounded on the north by the Soudan, and on the west by the Uganda Protectorate. Speaking in a general way, the other boundaries may be said to be the Suk mountains in the south and the Samburu mountains and Lake Rudolf in the east. In dealing with Kolosia, however, we are only concerned with that portion of Turkana, which lies to the east of the Turkwell river. (*See* Map.)

(*b*) *Area.*—Kolosia District covers an area of approximately 8,000 sq. m., the greater portion of which is below 3,000 ft. above sea-level.

(*c*) *Mountains.*—The monotony of what would be a huge flat plain is happily broken up by two long ranges of mountains, the Loitaruk-Lokopel and Loriyu ranges, both of which run almost due north and south. Of these two ranges, the former is by far the larger, and includes Kolosia's only two big mountains—Loitaruk, which rises to a height of 6,040 ft., and Kailongol, which rises to a height of some 5,000 ft. Mt. Loitaruk is so named on account of the large rock formation at the summit, representing the hump of a bullock, *Arok*. Mt. Kailongol appears to be the only Kolosian mountain which obeys the ordinary laws of altitude in regard to temperature and vegetation, by reason of which fact the Turkana call it a "cold mountain." Its name is derived from *Ailong* (a willing giver or benefactor), owing to the fact that, even during the worst seasons, grazing is always to be had on its slopes.

(*d*) *Watersheds.*—Kolosia is very fortunate in having four large rivers whose water supply is permanent. During a heavy drought even these dry up, but water is easily obtained by digging in the river bed. These rivers are the Turkwell, running north along the western boundary; the Kerio, running in a northerly direction through the centre of the district; the Sukuta, running north through the eastern section of the district; and the Khalabata, running in a north-easterly direction across the middle of the district and eventually flowing into the Kerio river. Yet a fifth river, the Kamuge, provides a permanent water supply, but, as it runs in an



MAP OF KOLOSIA DISTRICT, TURKANA.

easterly direction to the Sukuta through country which is almost entirely devoid of grazing. it is of little value during a drought. The waters of this river and the Sukuta are salt.

(c) *Hot Springs.*—In this district, trickling hot springs are very common, and the water, which is highly valued by the Turkana as a cure for stock disease, is slightly salt in every case. The best known of these springs are the following:—

Lukwamothing.	Lomothekethil.
Sukuta Lake.	Kula.
Lopirapira.	Ayangyang Swamp.
Kathimana.	Loicheritit.
Changamatak.	Taita.

ii.—*The Origin of the Turkana.*

I have found it extremely difficult to obtain any definite information on this subject, owing to the fact that, unlike other tribes, the Turkana do not make a point of seeing that their sons are well acquainted with their tribal history. They state that they were originally members of a tribe called Dung'iru, which is said to live between Turkana and the Nile river From there they came east, as a sub-section of the Ngie[1] tribe, and remained for some time in the country, which is occupied by that tribe to this day.

There cannot be the least doubt that the Turkana were cave-dwellers at some time or other, and that the tribal name is derived from the word "*naturkwan*" (a cave), but exactly where and when they lived in caves I have been unable to find out. Most of the Turkana give the place as the present Ngie country, but the information is too uncertain for one to record it as a fact.

Since their break from the Ngie, the Turkana population and wealth have increased to such an extent that the younger generation simply scorn the idea of being a sub-section of that tribe, but admit a firm bond between the two tribes as allies.

I have failed hopelessly to get to the bottom of the connection between the Turkana and the Masai. In all my inquiries I have met with the same reply: "You know that we are closely connected with all the tribes to the north-west, and that none of them circumcise: then, why try to connect us with tribes who do circumcise, for you know perfectly well that we do not?" When one points out the connecting links in their language, they reply: "Well, of course, no one is going to deny that we all came from the direction of the Nile once upon a time."

iii.—*The Kolosia Turkanas' Neighbours.*

In the North.—One might say that Kolosia has no neighbours in the north, owing to the fact that Lake Rudolf cuts the district off from the Boran, Rendille, and the Abyssinians.

[1] Ajie (N. of Topoth), Nyijie.

In the past, the Abyssinians have made their way to the Kerio river; but, as no expeditions of the kind have taken place for a considerable time, it is hoped that Kolosia is now free from unpleasantness of any kind from that front.

In the East.—On this side the Turkana have the Samburu, with whom they have been on the best of terms for a number of years, and with whom considerable inter-marriage has taken place, which may clearly be seen in the faces of many of the younger natives of this district.

In the South.—On this side we have the Suk. The relations between these tribes are, on the whole, fairly good, but cannot be said to have yet reached a firm basis.

In the West.—Here we have the Ngamatak section of the Turkana. This section has become very unpopular amongst the Turkana of Kolosia recently, on account of the trouble it has caused by the importation of rifles. I think, however, that the ill feeling dates from before the advent of the European to the time when the Ngamatak used to demand a share in all booty, whether they took part in the raids or not.

The Turkana have, for many years now, been a constant source of trouble, owing to their repeated raids on other tribes; but, so far as Kolosia is concerned, I hold that there is every reason to believe that the natives intend to lead a quiet and peaceful life for the future. In my opinion, the best way of ensuring peace is to enhance the powers and prestige of the elders. It is quite obvious that the elders have been gradually losing their influence over the younger members of the tribe, and it seems to me that the Government's first duty should be to remedy this. The elders are only too anxious to lead a quiet and peaceful life, but I cannot say the same of the youngsters.

2.—Tribal Divisions.

i.—*Territorial Divisions (Adakaritha).*

The Turkana are divided into three distinct territorial sections, which are called "Adakaritha," the name being the plural form of "*adakari*" (territory). These three divisions, which came into existence during the migration from Ngie, are the Nithir, Ngamatak, and Nibelai.

It would appear that the migration to the Turkwell was carried out by two forces—the Nithir and Ngamatak—but, on reaching this river, they realized the necessity for a further division, to enable one section to protect the country already conquered; and they decided that the Ngamatak should be split up into two separate sections, the one retaining the original name, the other becoming the Nibelai. As a result of this division, we find the Nithir, under Luguyin, working eastwards, and the Nibelai, under two leaders, Nakoritha and Loliokoli, working southwards, while the Ngamatak, under Iling'anyang, remain on the western bank of the Turkwell river.

Although every Turkana takes considerable pride in his own *adakari*, there is no ill feeling whatsoever between the sections, and inter-marriage is not discouraged. What feeling there is between persons of different sections is, I think, indentically the same as that between two Englishmen who were educated at different public schools.

In dealing with the Turkana of Kolosia, we are not concerned with the Ngamatak, who live in Lodwar district, and I do not, therefore, propose to make any further reference to that section.

A legitimate son becomes a member of his father's section, but an illegitimate son, on the other hand, becomes a member of his maternal grandfather's section.

A man can obtain admission into a section, other than that into which he was born, by killing a bullock and providing some tobacco for the elders of the section into which admission is sought, but such transfers are very uncommon. A man of one section very often lives with one of another section, but this does not necessitate his transferring to the other's section.

The main distinction between these two sections is to be found in the manner in which they slaughter a bullock. In both cases animals are killed by spearing the side, but the Nithir spear it on the left side, while the Nibelai spear it on the right. The distinction is small, but is rigidly observed, contravention of the rule involving the culprit in the payment of a large bullock.

In spite of the fact that the sections are becoming much intermixed, one can still define the areas occupied by each one.

The Nithir, whose name is derived from *ithiger* (an ornament), are so-called on account of their love of decoration. They are to be found on the northern side of a line running from Lodopal to Kochodin, thence along the Nakwakal river to its junction with the Kerio river, under the name of Lokinopop, and thence due east to the Turkana-Samburu boundary.

The Nibelai, whose name is derived from *tobil* (to break) and *ebelai* (a curved fighting-stick), are so named on account of the fact that they forged their way ahead, returning time and again with broken fighting-sticks. Their country lies south of the Nithir. The presence of Nithir so far south as Lodopal will be explained later.

ii.—*Locations* (*Nyitiella*).

In addition to these divisions, each *adakari* is divided into four sub-sections, which are called "Nyitiella," the word being the plural form of *egitiella* (a location). These sub-sections came into existence after the migration, and owe their origin to habits peculiar to each locality.

As with the Adakaritha, there is absolutely no ill feeling between the members of different sections, and I think one may say that what feeling there is, is precisely the same as that between two men, who were educated at the same public school but in different houses.

I now propose dealing with the sub-sections in detail.

The Nithir Nyitiella.

Imonya.—These people, whose name is derived from *imona* (to argue), appear to have made it a principle amongst them that no proposition should be entertained without a long argument, which not infrequently ended in blunt refusal. As far as can be ascertained, the cause of this contradictory spirit seems to have been the Ngamatak habit of always demanding a share of the loot from raids, even though they took no part in them.

These people originally lived near Lake Rudolf and, in accordance with the custom of the day, used to bring their stock to graze along the Korenyang river immediately after each rain. Particularly good rains having fallen one year, however, these people decided not to return to the lake, and are, to this day, to be found between the Turkwell and the Kochodin-Lokopel range. This is the explanation of their presence so far south as Lodopal, which was originally Nibelai. In recent years they have intruded on the Nibelai still further, and a number are now to be found at Lotong'ot.

Ithokyoka.—These people, whose name is derived from *athonyoka* (the fat under a sheep's neck), are so named on account of their habit of cutting off this fat while the sheep is alive, and tying it at their necks as an ornament. In addition, the wearer will, from time to time, remove the fat and smear it over his body. This *egutella* may be said to occupy the Khalabata plateau, which is excellent sheep country.

Nyethetou.—This name is derived from the words *nyethe* (white) and *ng'itou* (testicle or seed). The people owe their name to their habit of planting the seed of a small white flower for goat food. This sub-section is to be found on the Lower Kerio and Loriyu mountain.

Boichoroth.—These people are agriculturists and live on the shores of Lake Rudolf, their name being derived from *boich* (to quarrel) and *roth* (a Turkana expression representing the noise made by a stick or hoe when suddenly extracted from heavy mud). The word *boich*, in this connection, means "to squabble" rather than "to quarrel," as it is used in connection with the minor squabbles which take place over the ownership of gardens.

The Nibelai Nyitiella.

Ngotonya.—These people, whose name is derived from *ng'at* (greed) and *inya* (grass), occupy the upper half of the Sukuta river, their greed for better grass having carried them to the south-eastern extremity of Turkana.

Ngolyo.—These people live near the Ayangyang swamp, and are so named on account of their practice of trapping wild animals, their name being the plural form of *agwal* (a trap).

Gitacha.—Like the Ngolyo, these people are also trappers who live near the Kamuge river. Their name is derived from *atachet* (a trap).

Ngobotok.—These people are the paupers of Turkana, who, having no stock, took up agriculture on the Turkwell river. Their name is merely the plural of *ebothi* (a pauper).

I have previously stated that there is no ill feeling between the various sections and sub-sections, but I am bound to admit that these people are treated with mild contempt in ordinary life, though they have been known, in the past, to lead raids.

During recent years quite a number of the Ngobotok have managed to accumulate small herds of goats by the sale of millet.

iii.—*Social Divisions.*

The Turkana have a very large number of social divisions, but most of them are of very little importance; in fact, when one questions the Turkana about them, one invariably receives the reply that they are extinct and that no one, except an inquisitive European, even so much as acknowledges them. Some of the divisions, however, are important, and it is with these that I propose to deal. There are four main classes through which a Turkana passes, and these clearly indicate his value to his tribe.

Ude.—This class includes all young boys, who have passed the *epethe* (child-in-arms) stage, but have not yet performed the ceremony of spearing a bullock, which will be described in another paragraph. It may thus be taken that this class consists of children, who are unable to wield a spear, and, therefore, of little use to a fighting tribe.

Ngabana.—This class includes all bachelors, who have been through the ceremony of spearing a bullock, and are, therefore, competent fighters.

When a boy's father considers his son to be sufficiently powerful to pass from the Ude to this class, he requests some elders of his own age to arrange the matter, which request is passed on by them to members of the Ngabana class, a time and place for a meeting being arranged.

When the elders, Ngabanak, and the candidate have all arrived, the Ngabanak go off and demand a bullock from some village nearby. On the arrival of the beast, the candidate is given a spear by one of the Ngabanak, who thenceforward becomes his patron, and is told to spear the animal. If the candidate is successful—and I have never heard of one failing—the spear becomes his.

After the feast, which follows the spearing of the bullock, the patron takes the candidate to his own village. On arrival, the patron gives him a stool and plasters his hair with ghee and earth, called *agutujuk*. In addition to the stool and the spear, the candidate will be given some beads and wire ornaments. After the candidate has spent some twenty days with his patron, he will express his intention of returning home, and invite his patron to accompany him, which invitation is promptly accepted.

On arrival at his village the candidate will give his father a full account of the generosity of his patron, who will receive one heifer for his kindness. Once this is handed over the candidate becomes a full-fledged Ngabana.

It may here be mentioned that the theory that the spearing of the bullock has been substituted for the taking of a life is quite incorrect. The ceremony is, and always has been, merely a test of a boy's competence to take part in raids, without requiring someone to stand guard over him the whole time.

It has been held that Ethorok is an entirely separate class, but extensive inquiries have convinced me that it is merely an alternative name for Ngabana.

Ngiliok.—This class includes all able-bodied men, and may well be said to consist of the "flower" of Turkana.

When an Ngabana gets married, the members of that class arrange a meeting between the Ngiliok and themselves, when the newly married man is required to produce and kill a bullock for those present, the production and slaughtering of the beast alone constituting the right of admission of a married man into this class.

As it is the ambition of every Turkana to become a member of this class, the term Ngiliok has come to be applied in a general way to cover all able-bodied men. A Turkana, when asked to what class he belongs, will invariably reply that he is an Ngiliok. The word also constitutes the only form of congratulation known to the Turkana. Even a small child, who acquits himself creditably in a stone-throwing competition, will be greeted with cries of "Ngiliok!"

Ngathikou.—This class consists of the aged and infirm. No ceremony is attached to the admission into the class, and no man will admit that he is a member of it until he is forced by circumstances to do so.

iv.—*Decoration Divisions* (*Athapanitha*).

The Turkana are divided into two further classes, which determines what ornaments and forms of decoration may be worn by each, and the songs which each may sing. These classes are the Imuru, whose name is derived from *amuru* (a stone), and the Iritha, whose name is derived from *erith* (a leopard). Every male child automatically becomes a member of one of these classes at birth.

Membership of each class runs in alternate generations, by which I mean that all the sons of an Imuru will become members of the Iritha class, while their sons will become members of the Imuru class.

In addition to the songs which both classes may sing, each class has its own particular song subjects about which the other class may not sing. In the same way, some ornaments are common to both classes, while others may only be worn by one class.

It is possible, though very unusual, to obtain admission into one class from another by payment of one bullock, which payment represents the standard fine for a man who contravenes the class rules.

The name "Athapanitha" is merely the plural form of *Athapanu* (decoration).

I append a list of the main ornaments and song subjects which are peculiar to each Athapanu.

Ornaments and Decorations.

Imuru.	*Iritha.*
Baboon skins.	Leopard skins.
Black ostrich feathers.	Light ostrich feathers.
Dark metal ornaments.	Brass and copper ornaments.
Dark coloured beads.	Light coloured beads.
Giraffe's tail.	

White ostrich feathers may be worn by either class. Recently, feathers stained with red ink have become very fashionable, and either section may wear these. The same applies to feathers stained with red earth.

Subjects of Songs.

Imuru.		*Iritha.*	
Black ostrich ..	*Akeleth.*	Light ostrich ..	*Akeleth.*
Giraffe	*Eokuri.*	Leopard ..	*Erith.*
Stone	*Amuru.*	Elephant ..	*Etom.*
Ostrich eggs ..	*Abeiye.*	Rhino	*Amuthing.*
Lion	*Ang'atun.*	Guinea-fowl ..	*Atapin.*
Eland	*Ewapet.*	Partridge ..	*Etokora.*
Buffalo	*Akothuwan.*	Wart-hog ..	*Eputir.*
Honey	*Aou.*	Porcupine ..	*Abubu.*
Deika	*Ithiru.*	Serval cat ..	*Echwet.*
Kerio river ..	*Ang'olol Kerio.*	Snake	*Imun.*
Acacia	*Eowei.*	Turkwell river	*Ang'olol Tirkwel.*

v.—*Social Divisions amongst Women.*

The women are divided into four main social classes, but the passing from one to the other is automatic and no ceremony attaches to any of the stages :—

Akaduwaranan .. This class may be said to consist of all unmarried girls.

Ataran All women who are married, but have not yet given birth, are included in this class.

Abero This class consists of all married women who have given birth.

Akimat In this class we have the really old women, *i.e.* all past the climacteric.

The only importance of these classes is that the passing from one stage to another gives a girl the right to give orders to the lower class. Thus, the Akimak may give orders to the Abero, who, in their turn, give orders to the Akadwaranak. No one may, however, give orders to the Atarak.

It may here be mentioned that an unmarried girl, if she is living with a man, has the same standing as a married girl.

3.—Turkana Mode of Subsistence.

i.—*The Village* (*Awi*).

All Turkana villages are built on the plains, and it is very unusual for the Turkana even to utilize the grazing on the slopes of hills.

The main object of the Turkana is to be always in readiness to move to better grazing, and, in consequence, his village is a very temporary affair. He does not seem to have the least desire for a permanent dwelling, and it is very unusual to find him in the same village for more than two months on end. It should not be thought from this that he makes big moves every two months or so, as his moves may only cover a distance of a few hundred yards.

The village, or *awi*, is built entirely by the women, and, as a rule, two families occupy the same *manyatta*, but the stock of each family is kept quite separate. (Fig. 1.)

The first thing to be done, in constructing a *manyatta* or village, is to build a large circular fence of thorn bush, which is called the *alar*, and must be a very strong affair, as it is to form the main defence against wild beasts. The acacia is generally used for this fence, as its thorns hook on to each other and make a solid wall.

When the *alar* is complete, another circular fence, large enough to accommodate all the goats of the village, is constructed in the centre. This is the goat kraal, which is called the *anok*. Round this *anok* is built the cattle kraal, which is also circular, and goes by the name of *tomanawi* (inside the village).

There is a large open space between the outer wall of the cattle kraal and the *alar*, where the huts and the camel and donkey kraals are built. All camel kraals, which are called *anok*, are built inwards from the *alar*, while donkey kraals, also called *anok*, are built outwards from the cattle kraals. All inner fences are *ngukwa*.

If two families are living in the same village, each has its main entrance, so as to prevent the stock getting mixed up as it comes out of the kraals. The cattle and goats are kept apart by a fence running from the outer wall of the *tomanawi* on one side, through the centre of the goat *anok*, to the outer wall of the *tomanawi* on the other side.

A small exit is left in the *alar* behind each hut for the use of women during their periods and during confinement, the Turkana name for the exit being "*akatukweakal*."

ii.—*The Turkana Huts (Eakal and Akai).*

As in the case of village construction, all hut-building is done by the women. Each woman has two huts, one for use as a sleeping apartment, the other for use during the day. The sleeping apartment, which is called *akai*, is a circular structure

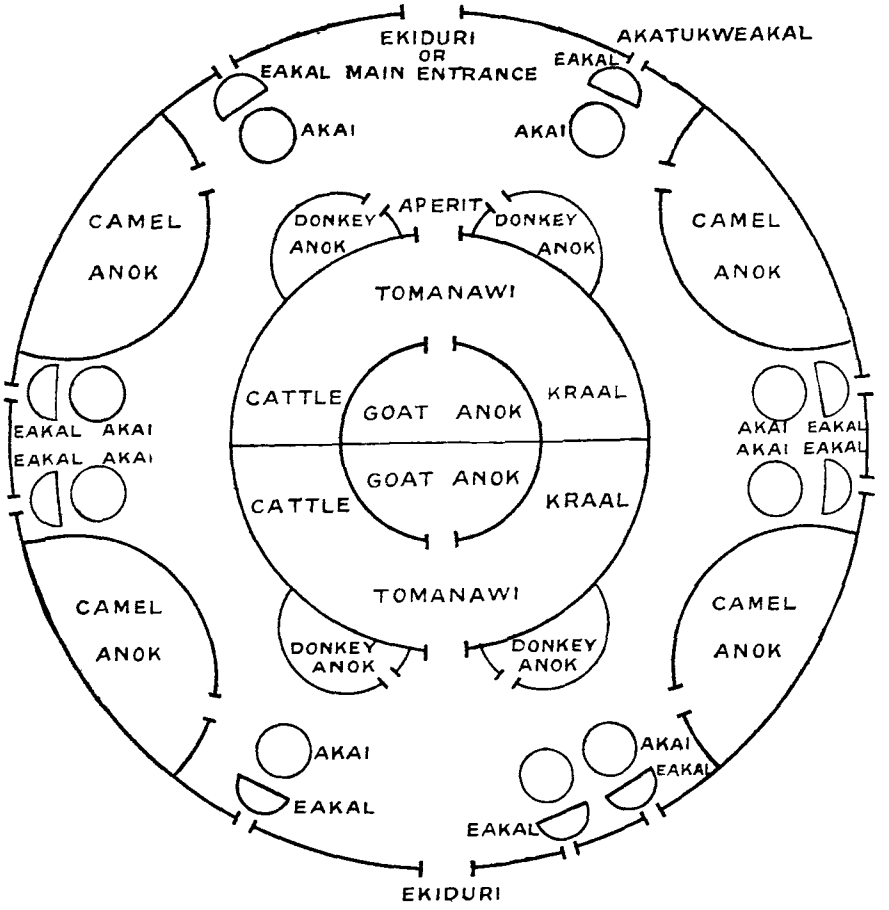


FIG. 1.—PLAN OF A TURKANA VILLAGE OR *Awi*.[1]

of the most primitive type, whose height is about 4 ft. 6 in. It is constructed by digging a large number of branches of a thornless tree into the ground in a circle and bending them towards the centre till they meet, when other branches are placed on top to keep them in position. No cord or bark of any sort is used to bind the

[1] In this diagram, showing the arrangement of a Turkana village, I have taken the case of two elders who have joined forces and live in one village, as this is the most common type. The upper portion belongs to the head of the village, the lower to the other elder. It will be noticed that there is a division between the stock of the elders only, their womenfolk having free access to each other's portion of the village. All entrances are closed at night by pulling large acacia branches across them. The *akatukwealal* remain closed ordinarily, and are only opened when women have reason to use them.

branches together, absolute reliance being placed on the natural property of branches to hook on to each other. In the event of rain, a skin is placed on top of the hut and held in position by a few stones or logs of wood. The door, which is always left open, faces outwards from the cattle and goat kraals. These huts are only used by married people, in which term is included a man and his mistress, and their daughters and small male children all men sleeping in the open.

The day hut, which is called the *eakal*, is built a few feet away from the *akai* facing the door of that hut. It is constructed in exactly the same way as the *akai*, but is semicircular, giving the appearance of having been cut in two, and stands some 9 ft. high at the centre.

Spears and fighting-sticks are stuck into the branches of the *eakal* during the day, but are transferred to the *akai* at night, being concealed in the branches.

Where grass is plentiful, it is sometimes used for the construction of the *akai*.

The only furniture in either hut consists of earthenware pots (*amut*), wooden gourds (*aparam*), wooden bowls (*atuba*), and, perhaps, a stool (*ekuchilong*). The last-named article is used as a pillow at night. All the articles are made by women, but the men are called upon to execute the finishing touches. This remark, however, requires qualification, as the men make their own stools, while the women make theirs.

iii.—*Turkana Food.*

The Turkana live almost entirely on meat (*akiring*), blood (*akhot*), and milk (*akili*). The men eat once a day only in ordinary life, namely, at about 5 p.m. It must be clearly understood, however, that meat feasts are very common, and, when one of these takes place, time is absolutely disregarded. The children are given milk to drink at about 9 a.m., and, if there is any millet (*imuma*) in the *manyatta*, they have a little at mid-day, when the women cook their meal. At 5 p.m. everyone eats, the meal consisting of sour milk or meat. Camel, cow, and goat milk are all put into the same gourd, while the evening's milk is mixed with that of the morning, and, if any remains, with that of the night before.

The Turkana extract blood from all their stock—camels, cattle, goats, sheep, and donkeys—regardless of sex, by piercing a superficial vein (*akep*) in the neck with a small arrow (*emal*), which is shot from a very rough bow, called *akau*. Before the extraction of blood, a rein (*aroba*) is tied round the beast's neck, and several young men get a firm grip of the head and hump, but no attempt is made to control the animal's feet. The blood extractor, who must be a member of the Ng'olioroto clan, sits down on one side of the animal and feels for the vein with his fingers. When he has located the vein and taken aim, he fires, but does not release the arrow from his fingers. As the arrow pierces the vein, he withdraws it. It may be said that he "jabs" the arrow into the vein rather than that he "shoots" it. As will be easily appreciated, considerable skill is required, for the least slip will kill the animal.

The blood is caught in a small wooden bowl and then transferred to a larger one, which is placed in a handy position. Blood is consumed either in its raw state or mixed with milk, but it is never cooked.

The time taken for a beast to recover its strength is roughly two to three months, according to the state of the grazing. This bleeding of an animal is called "*kidarak*."

In addition to meat, blood, and milk, the Turkana know of many kinds of wild berries and roots which are very nourishing—in fact, many are considered to be luxuries, and the women will go off for several days and live on nothing but wild berries, seeds, and roots. Actually, one may say that, with the exception of a few poisonous bushes, every tree is food to the Turkana.

Should a person be suddenly seized with hunger in the village, he will consume some ghee.

As might be expected, there are certain rules regarding the division of meat. The head and neck (*akhon*) and stomach (*aboin*) are handed over to the women, who cook the head and neck with the skin on, and later consume the whole, skin and all. The head of the village is given the upper portion of the left hind-leg (*akhaloyeding*) and the breast (*atarup*), while the senior member of the other portion of the village is given the lower part of the right fore-leg (*ikipithit*). When these choice parts have been handed over, the rest of the meat is divided up amongst the common herd.

The only animals whose meat the Turkana do not eat are the Hyena (*Ebu*), the jackal (*kwee*), and dogs (wild or otherwise) (*Ing'ok*). Their favourite meat is that of the elephant (*etom*), the hippo (*epir*), the rhino (*amuthing*), the giraffe (*cokuri*), the lion (*ang'atun*) and the camel (*ekal*). Crocodiles (*akungang*) appear to be eaten only by the Lake Rudolf people, while all Turkana deny eating snakes.

Every part of an animal is eaten, except the horns and teeth, and it is no uncommon sight to see a man making a meal off an animal's hoof.

iv.—*Tobacco.*

Anyone who has lived among the Turkana must feel a strong inclination to think of tobacco as food, for a Turkana of the southern half of the district literally "lives" with a ball of tobacco in his mouth, and will accept a gift of a mouthful of tobacco in preference to a good square meal. The Turkana neither chews nor smokes his tobacco but, having mixed it with a little salt (*emakati*) and wood-ash (*ekuruu*), will roll it into a ball and place it between the lower lip and the teeth, where it remains for hours on end. When available, the tobacco will be wrapped in the silky covering of the *eru* seed. One will often see a man extract his ball of tobacco from his mouth and give it to a friend, who will put it into his mouth without any hesitation.

If a man runs short of tobacco, he will cut up his tobacco pouch, and, rolling the pieces into balls, will place one at a time in his mouth until he is able to obtain a fresh supply of the real thing. This commodity is obtained from the Marakwet, but, in

spite of the huge prices charged in Kolosia, the Turkana seldom take the trouble to walk to Marakwet to buy.

v.—*Fowls.*

The Turkana do not keep fowls. While dealing with this subject, I think it may be of interest to mention a custom regarding the eating of eggs. The Turkana may eat the eggs of all birds except the guinea-fowl. Should he find some of these, he is bound to show them to the elders before he may consume them. Should he disregard the rule and be found out, he and his neighbours of his own age are forced to give the elders a meat feast.

vi.—*Honey.*

This is, indeed, a luxury to the Turkana, though the only members of the tribe who take the trouble to make bee-hives are the Ngobotok.

vii.—*Intoxicating Liquor.*

No intoxicating liquor of any kind is made by the Turkana.

viii.—*Teeth.*

The Turkana, both men and women, extract the two centre teeth of the lower jaw. There appears to be no particular age at which the operation is performed. The teeth are extracted with a bent piece of metal.

ix.—*Turkana Names (Ekiro).*

A Turkana child may be said to name itself on the first occasion on which it is suckled by its mother, for, when the child's mouth is first placed at the mother's breast, she calls him by her favourite name and, if the child suckles at once, it retains that name for the remainder of its life. If the first name fails, the mother will name others until the child answers to one by suckling, the name which she happens to be calling at the time becoming the child's name for life. In addition to this birth-name, a Turkana is, of course, given a number of nicknames, and it will be found that every Turkana has as many as four or five names; but all these are of little importance, except the birth-name.

In the event of a man killing an enemy, he assumes the deceased's name, but only as an alternative to his birth-name, which he still retains.

The birth-name is called "*Ekiro kulung'iri*" and the name of a victim "*Ekirang'amoi.*"

4.—The Kolosia Population and its Distribution.

i.—*The Population.*

Until the beginning of this year no census had ever been attempted in Turkana; one has, however, been begun, but is far from complete.

In a country like Turkana, where people live far apart, and are constantly on the move, it is very difficult to estimate the population, and the only argument I can put forward in support of my estimate is that it is based upon the 1926 census and personal observation while on tour. My estimate of the entire population of the whole district is 20,000, which figure includes women and children, while I hold that the tax-paying population is between 7,000 and 8,000.

The new census shows a large number of unmarried mothers, and I propose accounting for this fact under "Cohabitation." As to children, the census shows that the number of girls far exceeds the number of boys.

Very few old men are to be found in the district, and I put this down to the fact that the Turkana keeps himself so fit by hard walking, games, and energetic dances that, as soon as he becomes too old to take part in these activities, he goes to fat and crumples up.

ii.—*Distribution of the Population.*

Any remarks upon the distribution of a nomadic tribe must necessarily be taken in a general way.

The only permanent settlements in this district, by which I mean large settlements and not those of two or three villages, are to be found along the Sukuta river, near the Korenyang river, along the Turkwell river, near Kang'akupur, near Lokorokoro, near Lokupor, along the foot of the Loriyu range and along the shores of Lake Rudolf.

The Korenyang people do move about, but their movements are restricted to the Turkwell valley. The people on the Khalabata river move between that river and Lukwamothing, while those on the Kerio river move eastwards to the Kamuge river and westwards to Lukwamothing. The people of Ariet move about between that place, Ayahgyang, and Lokupor.

As in the case of permanent settlements I am now only dealing with the large migrations.

In the past, it appears that the Turkana used to move in a mass, but, as the country has gradually become more settled, they have come to use two grazing grounds only, though they may take as long as two months in moving from the one ground to the other.

That the Turkana must always remain a nomadic tribe is certain, owing to the scarcity of grazing and browsing, but, personally, I am convinced that they will gradually become more and more settled, until eventually their migrations will be an organized scheme, probably only involving them in two movements each year.

The splitting up of families must always be a feature of the Turkana, as all grazing is not equally suitable for camels, cattle, and goats.

5.—Child-Birth (Kidou).

i.—*Confinement.*

A woman's confinement usually extends over a period of eight days, commencing, roughly, four days before the child's birth, when she retires to the *akai*, or sleeping apartment. During her confinement, a woman may associate with both men and women, but must avoid all stock. The husband may not sleep in the *akai* during this period, but sleeps near the cattle kraal with the unmarried men of the village, whose sleeping-ground is called "*aperit*."

There are no definite rules regarding the woman's diet during confinement, though each clan has its own ideas on the subject. I have, however, come across one restriction which is observed by all the women of one *adakari*. The Nibelai women hold that no water should be drunk during the confinement. This restriction is universal among the Nibelai, but is not observed by the Nithir.

All the men and women I have asked about these restrictions have informed me that a woman must decide for herself what is best for her, though she is bound to be influenced by the experience of her mother and other old women. In view of these statements, I have come to the conclusion that, whatever restrictions may exist, may be considered in the light of hints, rather than rules. Certainly there is no form of penalty for disregarding the clan restrictions. In short, a woman does what she likes and, if the child dies, the blame is laid on some small detail, which is observed until someone disregards it and bears a child which lives. Women have told me that they have been warned against certain things and disregarded them without ill effect, and I, therefore, attach little importance to the question of diet at such a time.

ii.—*The Birth.*

Children are never born in a hut, which custom is, I think, probably due to the fact that the huts are very small and the roof low. When the labour pains begin, the woman drops on to her knees and rests her body on her heels, holding on to a tree or pole with both hands, if there happens to be one near. If there is no tree, she grips the upper part of her legs. Her shoulders are firmly held from the front by an old woman, who is called the "*akhateng'an*," while another old woman, who is called the "*akethedunon*," squats down behind and massages the woman's stomach. Other women are present, while anyone may attend the ceremony.

The child is received by the "*akhateng'an*," whose grip of the woman's shoulders is taken up by someone else. On the arrival of the child, the woman asks the "*akhateng'an*" whether it is a boy or a girl. If it is a boy, the "*akhateng'an*" is given an old broken spear, and she cuts the navel-cord (*aputhit*). If, on the other hand, it is a girl, she is given a broken knife with which to cut the cord. Immediately the *aputhit* is cut, the "*akethedunon*" takes a folded skin (*areth*) and ties it tightly round the mother's abdomen. The child is then washed in cold water by its mother.

The placenta (*ang'ethep*) is wrapped in the mother's apron (*adrel*) by the mother, who later buries it under an *ang'omo* bush, making sure that it will not be dug up by hyenas. After this the mother takes some wood-ash and, having mixed it with ghee, rubs it all over her stomach and abdomen. This concoction is said to help the removal of the placenta from the uterus.

iii.—*Ceremonial after the Birth.*

As the Nibelai custom differs from that of the Nithir, I propose dealing with each *adakari* in turn.

The Nithir Ceremonial.

On the day of the child's birth, four goats are killed, the undigested food of two of which is smeared all over the mother, while the skins of the other two are sewn together to make a bag for the mother to carry her child on her back. Three days later a large sheep is slaughtered, and the fat from its tail is smeared all over the mother.

Next morning the mother leaves the *akai* just before sun-rise and, placing her child in a large wooden drinking-trough (*atuba*), she drags it, preceded by the "*akhateng'an*" or "*akethedunon*," into the goat kraal and back to her hut. After this, she places the child on her back and the "*akhateng'an*," lighting some *mukoma* palm leaves, leads her twice round all the stock as she beats the burning palms on the ground. When this has been done, the "*akhateng'an*" takes two long sticks, one of which she gives to the mother, and they again walk twice round all the stock, the "*akhateng'an*" this time touching a beast with her stick from time to time and instructing the mother to do likewise. After this ceremony, which is attended by no one but the performers, the husband slaughters a bullock to signify that the mother's confinement is at end, and that, having been purified that morning, she may return to her duties amongst the stock. Her husband may now also return to the *akai*, but he may not have sexual intercourse with her for two months at least.

The Nibelai Ceremonial.

On the day of the child's birth a bowl of water is brought to the mother, who having dropped four red-hot pieces of wood-ash (*ngatolol*) into the water, drinks it. Three days later the mother leaves her hut and, having placed her child in a large drinking-trough, which has previously been half-filled with wood-ash, she performs the same ceremony as the Nithir. On returning to her hut, she places the child on her back, and, when in position, inserts a wad of grass in the child's rectum. This wad (*eorut*) is left in position all day and is said to prevent the child ever relieving nature while in this position. When this is done, the mother places some "*edume*" seeds in a bowl of water, which she sprinkles over the camels.

When this has been done she is considered clean and may go about her ordinary duties amongst the stock.

Should the removal of the child be very difficult, a goat is seized by the husband and held in mid-air by two men, while the husband cuts its throat. The labouring woman is then required to crawl under the beast four times, allowing the blood to drip on to her as she passes. It is held by all sections that this will remove all difficulties, and that the child will be born without further complications.

With both *adukaritha* sexual intercourse is forbidden from the time that the woman's pregnancy is a confirmed fact till, at least, two months after birth.

A child is not weaned until it is about two years old, which often means two children being suckled by a woman at the same time.

iv.—*Twins* (*Emu*).

Twins, which are called *emu*, are not welcomed by the Turkana. Should a death occur nearby, soon after twins have been born, the Turkana will put it down to the fact that two persons came into the world together, and, as this is unnatural, an extra death must necessarily occur.

The mother of twins may only keep one, the other being handed over to a foster-mother. If the mother is unmarried, the second child is handed over to her mother. If, however, she is married, the husband may either give the second child to its maternal grandmother or to one of his own wives. In either case the child becomes the absolute property of the foster-mother, and has the same standing in her family as any of her own children.

When twins are born, it is necessary for the father to slaughter a cow and a goat, and for the woman's father to slaughter a bullock and a goat, in addition to the beasts ordinarily slaughtered on the birth of a child.

v.—*Triplets.*

Extensive inquiries have convinced me that triplets are absolutely unheard of among the Turkana.

vi.—*Still-born Children and Abnormal Cases.*

Should a child be still-born, no ceremony whatsoever is performed, the corpse merely being thrown out as soon as possible.

It is held that a child cannot be born feet foremost.

Should the child be found to be lying across the womb, the "*aketheāunon*" and the "*akhatengʻan*" resort to energetic massage, but, should this fail, it is held that both the mother and child must die, no matter what position, other than exactly the correct one, the child is worked into.

vii.—*Miscarriage* (*Atonea*).

Miscarriage, which is called "*atonea*," is treated in a very matter-of-fact way. Apparently a mixture of mutton fat and "*ebugat*" seed is taken, but, beyond that, the misfortune is put down to the will of God.

viii.—*Abortion* (*Echiem*).

Abortion, which is called "*echiem*," appears to be very uncommon amongst the Turkana, which is indeed a blessing, as only the most brutal means of freeing a girl from her burden is known. The girl lies on her back, with her head thrown well back, while someone pounds her with his foot, regardless of the pain caused to her.

As this invariably leads to a long illness, the culprit's chances of recovery are very poor. The penalty for causing an abortion is the confiscation of one's entire property, which is given to the father of the girl. When one compares this penalty with the fine which the culprit would have to pay for having been the cause of the girl's pregnancy, and recalls the fact that the girl's life is being risked, one will easily appreciate the reason why few men will consent to this objectionable practice. Actually, I have not come across any cases in which men have been penalized, and, therefore, presume that I have not come across any cases of intentional abortion.

ix.—*Menstruation* (*Agbwegin*).

It would appear that the Turkana attach less importance to this than most tribes do, as a woman is not prevented from associating with men or women during the period, nor yet is she bound to leave her ordinary duties. Only one skin is worn during the period, and this is slung from the right shoulder.

Sexual intercourse is forbidden, and unmarried girls must avoid camels, while married women must avoid all stock. A special exit is made in the outer fence of all villages, behind each hut, for the use of women during their periods and during confinement. This exit is called "*akatukweakal*."

When the period is over, the entire body is smeared with ghee.

A man may not take his bride to his father's village during any of his wives' periods, but must wait till she is clear.

6.—TURKANA MARRIAGE.

The Turkana recognize two forms of marriage, which may be termed "marriage by arrangement" and "marriage by abduction." The essential difference between these forms of marriage is, that dowry is paid before the girl goes to her husband in the one case, while, in the other case, she is abducted before the question of dowry has ever been discussed.

Marriage by arrangement is by far the commoner of the two forms; in fact, should the first attempt to abduct the girl be frustrated by her brothers, the suitor

is bound to comply with the procedure laid down for marriages by arrangement. Marriage by arrangement is called "*akota*."

It would appear that marriage by abduction, which is called "*akomari*," not only enhances the respect due to a warrior from his fellows, but also raises him in the estimation of the girl's father, which often results in his accepting smaller dowry than he would ordinarily have demanded. Should the abduction fail, however, the girl's father will demand a number of small gifts, in addition to the dowry.

When a warrior wishes to marry, he takes a sheep, some honey, and tobacco to his father, and informs him of his desire. When the father has ascertained the girl's name, he calls a meeting of elders of his own age and, having killed a large goat, requests them to assist him in pleading the case of his son. Later, the elders, accompanied by the suitor and his father, proceed to the girl's village, and enter into a long discussion with her father about dowry. No gift is taken on this occasion. After much discussion, the amount of the dowry will be decided—the usual amount being some twenty to thirty head of cattle—and the visitors will depart.

When the suitor's father has got half the dowry ready, he will despatch it, with his eldest son and the suitor, to the girl's father, when the suitor will take up his abode with his father-in-law, until full dowry has been paid. When the remainder of the dowry is ready, the suitor's father, accompanied by his wives and sons and a few elders, will proceed with the stock to the girl's *manyatta*, making sure that an extra bullock is included in the herd for slaughter purposes, "so that the girl's father shall not starve while watching the stock being herded into his kraals."

If the girl's father is satisfied—for it not infrequently occurs that he will make further demands—the newly married couple are handed over and the party return home. On their return journey, however, they are accompanied by all the girl's relations, each of whom, on arrival at the girl's new home, will demand some form of gift. When they have been satisfied, to attain which purpose as much as ten camels and fifty goats have been handed over, they return home. If, on their return to the girl's father, they report favourably, he will send a bullock to the girl's new home to signify the ratification of the marriage. By the time this bullock has arrived, the women will have made new skins for the bride, and these are now given to her, her shorter and less modest skins being thrown away.

When the bride becomes pregnant for the first time, her mother takes a camel, a bullock, five loads of millet and one load of "*eaburg*" seed, and builds a temporary village just outside her son-in-law's village. Next day she cooks the *eaburg* and millet in ghee and, when ready, takes it to her son-in-law, who invites all the neighbours of his own age to a meal. On the arrival of the guests the camel, bullock, and food are officially handed over, and, the bullock having been slaughtered, the great feast begins.

The day after the feast the girl's mother shaves the right-hand side of her daughter's head, and the girl's husband shaves the left-hand side. When this is done, a pair of sandals are made in the same manner, the mother making the right foot, the husband the left. After this, the husband gives his mother-in-law a bullock which is slaughtered there and then.

This ceremony and exchange of gifts between the girl's mother and husband enables the girl to visit her father's village whenever she likes, which she was not allowed to do previously.

7.—COHABITATION (TAMANY) [*pronounced* "TOMAÑ"].

Cohabitation amongst the Turkana is considerably more common than marriage. One reason for this extraordinary state of affairs is that the average Turkana is a very independent person, who spends the greater part of his time at dances and meat feasts, and, therefore, dislikes the idea of being tied down to a home. A far more important reason, however, is to be found in the Turkana law regarding pregnancy before marriage, which involves men in heavy fines while still quite young.

As with most African tribes, sexual intercourse between unmarried people is extremely common and is not discouraged, unless one holds that the Turkana fine for causing a girl to become pregnant is a means of discouraging such habits. Personally I do not, for the mere reason that I know the elders do not object in the least to the habit, but consider it mere human nature.

Should a girl become pregnant, she is forced by her parents to name, not only the person responsible, but all the youngsters who have had sexual intercourse with her at any time. In the event of her shielding one, it is held that she will suffer a miscarriage. When the parents have obtained a list of the culprits, the whole village turn out, each with some form of weapon, and pay a visit to the village of each man.

Unless a man can prove that he has never had sexual intercourse with the girl, he is made to pay a fine of 30 head of cattle, which is called "*agichola*." It should be understood that each of the culprits is made to pay 30 head, not the true offender alone, nor yet is it a joint fine. Should one of the offenders be a poor man, he is made to pay whatever he can, though, in actual life, the father of the girl takes care that the name of some rich man shall be substituted for such a person.

The fine of 30 head of cattle is only payable in the case of a girl becoming pregnant for the first time, the amount being reduced to 11 head for every subsequent occasion on which the girl becomes pregnant.

Should one of the offenders desire to marry the girl, he is made to pay full dowry over and above the fine, which is essentially a fine, and cannot be considered as part payment of the dowry.

When a girl has borne a child, her chances of marrying are considerably reduced, and she therefore has two courses open to her, either to remain in her father's

village as a prostitute or to become some man's mistress. In the latter case, however, the man is not exonerated from payment of the usual fine if the girl becomes pregnant. Thus, throughout Turkana one finds in each village a number of prostitutes, and also a number of women living with men to whom they are not married.

All illegitimate children are handed over to the girl's mother as soon as they are weaned, even if they are borne by a girl who is living with a man as his mistress, and these children have exactly the same standing in the girl's family as the legitimate children.

As all Turkana have to pay one or more fines while very young, it will be seen that a man must be very rich to be able to afford a wife later on.

8.—DRESS AND ORNAMENTS.

Members of the male sex wear no clothes from the time of their birth to the time of their death. In recent years the men have started purchasing cloth, but even this they do not wear in the ordinary way. Having rolled the cloth up, it is tied round the abdomen till night, when it is used as a sheet. The reason why the cloth is worn thus is, in some cases, hunger, for it is held that the tightening of the cloth helps a man to forget how hungry he really is. A far more important reason, however, is the Turkana loathing for any covering on his body during the day, on account of both the excessive heat of Turkana and also the suspicion which clothing arouses in the minds of friends. Clothing is looked upon as a means of concealing some misfortune: thus, any Turkana, who covers his body, is thought to have some reason for doing so. Nevertheless I do not think that this opinion is extended to other races and tribes who wear clothes.

It may be argued that most Turkana do wear clothes, on account of the fact that most of them wear a skin, which is tied at the neck and covers the shoulders and back, running to a point at the end of the spine. This skin, which is called "*akalowat*," is, however, worn essentially for decoration and not as an article of clothing.

All Turkana of both sexes wear sandals from the time they first put their feet to the ground. The material used for these sandals depends entirely upon a man's fortune, for, should he be fortunate enough to obtain some elephant, rhino, or giraffe hide, he is in clover. When no other hide is obtainable, the skin of a bullock is used, but this will be worn out before the expiration of a month.

In ordinary every-day life a man carries about with him a stool (*ekicholong*), a thin curved fighting-stick (*ebelai*), a wrist-knife (*abarait*), and an oryx horn (*atom*).

The stool is used both as a chair and as a pillow. (Fig. 2.) The fighting-stick is a very simple affair. It is an ordinary stick, bent so as to terminate in a curve,

the end of which is sharpened to a knife-edge, not a point. It is used, in minor combats, for splitting open the crown of a man's head by a strong downward stroke. (Fig. 6.)

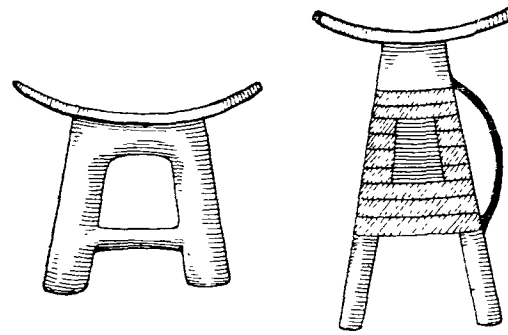


FIG. 2.—TWO TYPES OF TURKANA STOOLS, WHICH ARE ALSO USED AS HEAD-RESTS TO PREVENT THE PLASTERED HAIR TOUCHING THE GROUND WHILE THE WEARER SLEEPS.

The wrist-knife is indeed an unpleasant weapon. (Fig. 3.) It is a circular blade, in the centre of which a space just large enough for one's wrist is left, with a passage large enough for the smallest part of the wrist, for removal purposes. The knife has two guards which are made of hide, the one on the inside to protect the wrist from getting damaged, the other on the outside to prevent other people getting hurt by accident, but, of course, the outside one is removed on sighting danger. The use of the knife is to slash at a man's face when at close quarters.

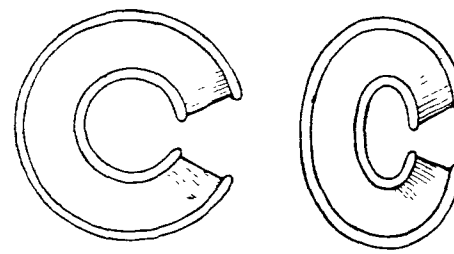


FIG. 3.—TWO TYPES OF TURKANA WRIST-KNIFE. WIDTH OF BLADE ABOUT 2 INS.

The oryx horn is used for carrying ostrich feathers or any other small article, and may be taken as the Turkana's purse. The mouth of the horn is closed by stuffing a tobacco-pouch into it. It may here be mentioned that the Turkana tobacco-pouch is in actual fact nothing more nor less than an ordinary strip of skin, which is folded over and tied, though some of the elders do have properly sewn bags.



FIG. 4.—TURKANA RINGS FOR TEARING OUT AN ENEMY'S EYES OR RIPPING HIS NOSE OPEN. LENGTH 1 IN. TO 3 INS.

In addition to these, a man will almost always be found with a string of beads round his neck, some small metal ornaments and a string of beads round his waist.

When out to attract the opposite sex, his hair is plastered with earth (*emuroge*); a grey clay is used, if possible, but, as this is only obtainable from Muruasagar, one cannot rely upon getting some at any time. This preparation of the hair is called "*abuthabath*." On his right wrist our friend will have his wrist-knife, and on one or more of his fingers he will wear a strong wire ring, the one end of which—for native rings are seldom soldered—protrudes about two inches from the outer side of his finger and is bent so as to form a hook. (Figs. 4 and 5.) This ring or hook is

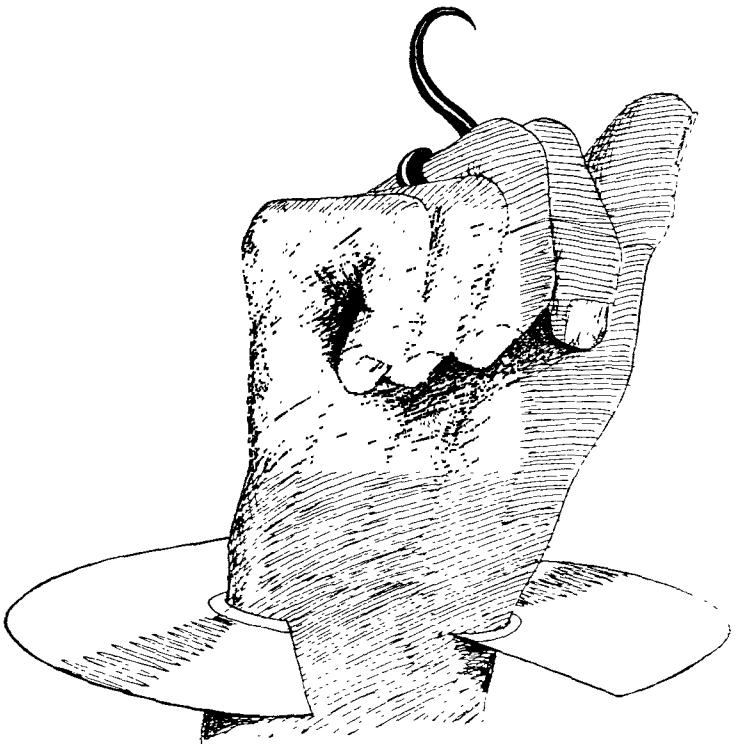


FIG. 5.—TURKANA WRIST-KNIFE IN POSITION WITH THE OUTER GUARD REMOVED.

used, during a fight, for ripping up a man's lip or nose. It goes by the name of "*agolo*." In addition to these ornaments he will carry two spears, his stool, his fighting-stick, and his oryx horn, while in his hair he will wear many ostrich feathers, his neck being ornamented with beads.

When going to war, he discards all his ornaments and only carries his spear and his wrist-knife.

The Turkana, like the Suk, allow their hair to grow to a considerable length. When it becomes tiresome they cut it off short and either put aside or sell the hair which has been removed. A number of people imagine that the long plastered hair

is natural, but such is not the case. What actually happens is that a man collects hair for many years, and, when he has sufficient, he plaits it all together and then plasters it. When this is done it is sewn (*batothur*) on to his own hair, the whole being known as *emedot*. This explains my remark, under the burial ceremonial, to the effect that a man's hair is buried with him only if he happens to be wearing it at the time of his death.

In addition to the *emedot*, the Turkana cut strips of rhino hide, into which they bore holes for the insertion of ostrich feathers. These strips are called "*atelo*." A number of these are fastened together, when they assume the name "*athaiya*," and are fitted over the hair or "*abuthibuth*." Each hole in the *atelo* is called "*athului*." Another form of *athaiya* is largely used: this is made from acacia fibre, and is constructed as a whole, not in separate *atelo*, the workmanship being really good.

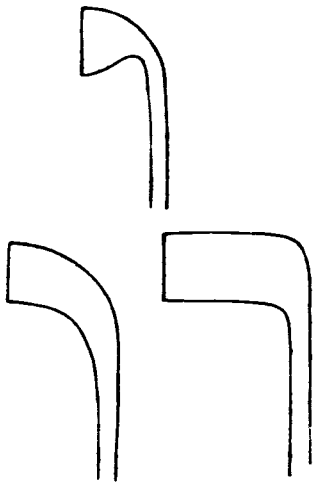


FIG. 6.—THREE TYPES OF TURKANA FIGHTING-STICKS ("EBELAI").

On killing his first enemy, the Turkana makes a large number of cuts along the upper part of his right arm and down the right-hand side of his chest and shoulder-blade. On obtaining a second victim, he makes similar cuts on the left side. The number of cuts is absolutely immaterial and rests entirely with the victor. Should a man kill more than two persons he may increase the number of cuts already made, but no regulation is laid down beyond the first two. It has been said that, on obtaining a third victim, a man may pass on the right to cut blood decorations, which are called "*agaran*," to a less fortunate brother or friend, but this theory is entirely incorrect.

Members of the opposite sex start wearing two aprons from infancy. Both aprons are hung from the waist, the front one, which is called "*arach*," being triangular, while the back one, which is called "*elou*," is oblong. These aprons increase in length as the child grows, and by the time she reaches maturity a girl's aprons reach very nearly to her knees.

When a girl marries she wears long aprons which reach nearly down to her feet, the front one going by the name of "*adwel.*" She also starts wearing a third skin, slung from the right shoulder, and called "*egoloth.*" All aprons are decorated, but not to any great extent.

The married women wear large quantities of beads, and are constantly smearing themselves with ghee or mutton fat. Unlike other tribes, they seldom wash before anointing themselves with fat.

All the members of this sex shave their heads on both sides, leaving only a little hair on the crown of the head. What hair is left is allowed to grow to a length of three or four inches, and is plaited into cords with ghee and red earth. (Pl. III, Figs. 1 and 2.)

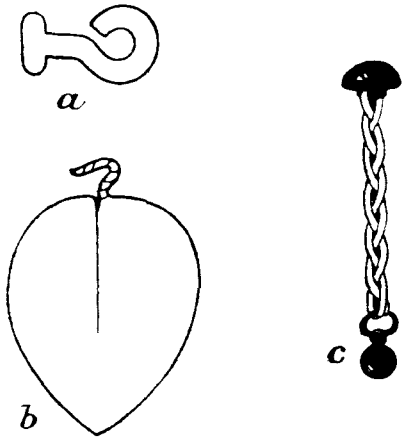


FIG. 7.—(*a*) TURKANA MAN'S IVORY LOWER-LIP ORNAMENT. THE STUD IS LARGER THAN THE HOLE IN THE LIP, TO PREVENT THE ORNAMENT FROM FALLING OUT ONCE IT HAS BEEN INSERTED BY STRETCHING THE LIP. (*b*) TURKANA MAN'S ALUMINIUM NOSE-DISC. THE HOOK IS BOUND WITH THIN GOAT SKIN TO PREVENT CONTACT OF THE FLESH WITH THE METAL (*c*) WOMAN'S LOWER-LIP ORNAMENT.

The women's ears are pierced in the same manner as the Masai, but only very small ornaments are inserted.

The lower lip of both sexes is pierced at a very early age, when a small piece of wood is inserted. In the case of men, this piece of wood will be replaced later by a rounded piece of ivory at the end of which is a stud to keep it in position. When inserting it, the lip is stretched to widen the hole so as to allow the studded end to pass. (Fig. 7, *a*.)

Women wear a piece of platted wire, which is also studded and has a bead hanging from the outer end. (Fig. 7, *c*.)

All men have a small hole pierced in the septum of their noses. On ceremonia occasions a large metal disc is hung from the septum. (Fig. 7, *b*.)

9.—TURKANA STOCK (BARIN).

The Turkana keep camels, cattle, donkeys, goats, and sheep, each of which species has its own kraal in the village, though cattle and donkeys are herded together while grazing. On the whole the stock is of a very poor type, but little else can be expected, as it has to rely upon browsing for its existence. Grazing is obtainable during the latter half and just after the rains, but for the remaining seven or eight months all stock is dependent upon the browsing.

Camels are the last to leave the village, being turned out to graze at about 8 a.m., but, unlike the remaining stock, they do not return to the village until evening. As a rule they are watered every five days, but when there is an abundance of water they are watered every third day. The watering of camels takes place at about mid-day. Camels, while out grazing, are under the care of the young men, but are looked after by the women when in the village. The Turkana keep very few camels for breeding purposes, one camel being lent out when required. It may be taken that only the richer men keep breeding camels.

Cattle and donkeys are turned out to graze at about 5 a.m., being returned to the village at about 8 a.m. for milking. Dew (*Akop*) is considered to be a very good thing for cattle, but harmful to goats, whose feet become soft and split if they walk over dewy grass. At about 11 a.m. the cattle and donkeys are herded slowly towards a water-hole, so as to arrive about mid-day. The care of these beasts is placed in the hands of the elder boys or young men. After watering, the cattle and donkeys are allowed to graze until about 5 p.m., when they are returned to the village for milking.

The same hours as those observed in regard to cattle and donkeys are also observed in the case of goats, with one exception, namely, that goats are watered at 11 a.m. instead of mid-day. Goats and sheep are, of course, herded together, and are in the charge of the small boys and girls.

All milk, except that of the donkey, is put into one gourd, but is not consumed until it has become sour, which does not take long by reason of the fact that old and new milk are mixed. Donkey's milk is only consumed by the children and grown-up people who are too poor to be able to obtain any other kind of milk.

The Turkana is a careless and cruel herdsman and a most efficient liar. He will often leave his stock all day in order to attend a dance or a meat feast, and, on his return to his village, will account for the loss of any stock by recounting a long and thrilling tale of a fight he had with some beast of the bush. Losses caused in this way must amount to very large numbers.

Many deaths are also caused amongst the stock by the herdsmen beating their beasts. Should a Turkana see a beast straying he will chase it and, having come up with it, will strike it with a stick with all his might, or throw a large stone at it. When one realizes that the death of an animal means a meat feast, one cannot wonder at this cruelty.

I have found it extremely difficult to analyse the mind of the Turkana in regard to his stock, for he undoubtedly loves it, and yet he thinks nothing of beating or killing it.

There are two words in Turkana which occur more frequently than any others, and they are "Turkana" and "Barin" (stock). Just as the Turkana never speaks of "men," but always "Turkana," or "Suk," or "Emoit," so he never talks of his cattle, or camels, or goats, but always of his "Barin."

The Turkana is not only casual about the care of his stock while out grazing, but even in the village, for it is extremely common to hear of a lion, leopard, or hyena carrying off some beast from a village. It seems to me that these losses could easily be avoided if the people took the trouble to build more secure fences, but I have pointed this out in vain.

My own theory is, that the people look upon their stock as food and not as stock, which would clearly account for their cruelty, and also for the fact that they do not think twice about slaughtering animals. The carelessness is, I think, simply their nature, for in all things one comes across this casual, happy-go-lucky way of doing things. Again, the Turkana are no exceptions to the rule that all natives are fatalists.

When I recall the number of animals killed on ceremonial occasions, and the still larger number slaughtered in the ordinary way for meat, I cannot help thinking that the Turkana stock must be on the decrease. This fact, combined with the knowledge that their herds are already comparatively small, makes one marvel at their casual attitude towards the stock, which they not only profess to love so much, but actually do love.

Turkana stock estimates must necessarily be very rough, as there is at present no reliable basis for calculation. As, however, it is generally understood that the Turkana own very large herds of stock, and my own estimates vary very little from those of my predecessor, I propose giving both estimates for what they are worth.

My predecessor's figures read :—

Camels.	Cattle.	Donkeys.	Goats and Sheep.
25,000	50,000	16,000	400,000

My own figures read :—

20,000	60,000	10,000	300,000

I have based my figures on the new census, as it now stands, and personal observation during my tours.

The Nithir are the chief camel owners, the Nibelai possessing but few. The best camel areas are the Korenyang river, Lower Kerio river, Khalabata river, and

the Lake Rudolf area. These areas are also very good cattle areas, with the exception of the Lower Kerio.

There are two outstanding sheep areas, namely, the Lower Korenyang and the Khalabata. The only mode of transport in Turkana is the donkey, and a few are, therefore, to be found in every village.

An elder seldom keeps all his stock in the same village, but sends his camels to a good camel-grazing ground, half his cattle to another place, his goats elsewhere, and so on, all under the charge of sons or relations. His object in doing this is partly to give each species the best grazing, and partly to protect a portion of his stock from any infectious disease which might break out in his village.

The milking of all stock is done by the women, the men priding themselves on their ignorance of the art.

10.—BURIAL CEREMONIAL (AKIAN).

Burial amongst the Turkana is only extended to three classes of persons, namely, heads of villages, all women who have attained the distinction of becoming grandmothers, and the senior wife of all heads of villages. All other members of the tribe are thrown out by persons of their own class, which is to say that women throw out the women, and young men throw out the young men.

As the burial of a woman differs slightly from that of a man, I propose to deal in full with a man's burial first, and then point out in what respect a woman's burial differs.

i.—*The Burial of a Man.*

As soon as an elder is declared to be dead—*auto etau* (the spirit is departed)—all the members of the village set to work to dig a grave. When this is done, some elderly people of both sexes are sent for, and they divest the deceased of all his ornaments and decorations except his hair. After this, the corpse is placed in the grave with the deceased's stool and a supply of tobacco, ghee, and milk, and the grave is then filled in. The grave is the centre of the goat anok.

At sunrise next morning all the women shave their heads completely, and remove all their ornaments and clothes except the *egoloth* or large skin hung from the shoulder. In actual fact the back skin is not discarded but merely changed round, so that the ornamented side is concealed. The women remain like this for some five days, during which many goats are killed. Each woman takes three of the skins of these goats, and, having sewn two together, hangs them from the waist, while the third is hung over the right shoulder. The old skins are not thrown away but put aside.

Two days after the burial all the male members of the village shave their foreheads, after which a feast is held, the number of beasts killed depending upon the wealth of the deceased.

Six days later, a move is made to a new village a few hundred yards away from the old one, all the thorn bush and branches which formed the huts and kraals of the old village being piled on to and round the grave. About three months after this move, another feast is held, more relations having arrived by then, and, soon after, a further move is made to a new village about a couple of miles away.

Yet another feast takes place about six months after the burial, when all the relations from far lands have arrived. After this feast the deceased's property is divided, and the members of the deceased's village move, for the last time, to a new village some twelve miles from the place of burial.

The theory that a man's hair is cut off after death is totally incorrect. The law in this connection is that, if a man is wearing his *emedot* when he dies, it goes with him to his grave, but if he was not wearing it at the time of death, it passes to his eldest brother, or, if no such person exists, to the elders of his own age.

Another sign of mourning is observed, but only by the women; this consists of the wearing of one sandal only.

It is universally understood by the Turkana that incorrect procedure results in the complete annihilation of all the stock of the offending village.

The eldest brother and eldest son of the deceased are responsible for everything connected with the burial and inheritance, unless the deceased is a woman whose husband is living and competent.

ii.—*The Burial of a Woman.*

The main differences in ceremony, if the deceased is a woman, are twofold, and concern the place of burial and movements to new villages.

A woman is buried under her hut, which is broken up and thrown over the grave, a few branches of thorn bush being extracted from the cattle kraal and placed round the grave to prevent wild beasts digging up the body.

The other important difference is that, instead of moving the village three times, it is only necessary to move it once to a place a few hundred yards away.

iii.—*The Throwing Out of Corpses.*

Although none of the younger members of the tribe are entitled to burial, it should not be thought that the matter ends when the corpse has been disposed of, because the ordinary mourning ceremonies are observed even with this section. As in the case of the women, however, it is not necessary to move the village time and time again.

11.—Inheritance (Atiakagno).

It is customary for a man during his lifetime to distribute a part of his stock amongst his wives for them to look after, and on his death this stock becomes their

own property. The remainder of the property is distributed by the deceased's eldest brother, who is entitled to one cow for his trouble.

Each of the deceased's wives, except the senior one, who is entitled to three cows, is entitled to one cow, in addition to the stock which she has inherited automatically by reason of her husband's generosity during his lifetime.

All the sons are entitled to an equal share of the remaining stock, except the three eldest sons, each of whom inherits more than his junior. The proportion in which the stock is divided may be taken as 5 head for each junior, 6 for the third son, 7 for the second son, and 8 for the eldest.

It must be remembered that before the division of any property takes place three large feasts have been held, and that the stock of a man of average wealth will have been reduced to the extent of as much as half a dozen camels, a dozen bullocks, and about 40 goats.

The deceased's wives become the property of their sons, who inherit their mother's property when she passes away. Although cohabitation between a son and his mother is not permitted, the son can, and frequently does, take another of his father's wives to live with him, in which case she becomes his lawful wife. A son may not receive dowry for his mother, but, should she re-marry, her relations can claim one cow from her new husband.

A man's ornaments and spears are inherited by his eldest brother. Should he have no brother, they are distributed among his neighbours of his own age.

An unmarried warrior's stock is inherited in equal shares by his mother and his younger brother. Should he have more than one younger brother, the stock goes to his next younger brother, and the rest do not benefit by his death.

A married woman's ornaments are inherited by her sisters-in-law, but those of an unmarried girl pass to her mother.

The stool of a man, whose age does not entitle him to burial, is handed over to the neighbours of his own age.

Illegitimate children have precisely the same standing in a family as legitimate children, taking their seniority according to age.

12.—TURKANA LAW.

Cases are heard by elders, but no definite number is laid down, nor yet does it matter to what section they belong.

I here propose to record the punishments which I have found to be universally recognized for certain crimes.

Murder.—This gives the deceased's relatives the right to retaliate or demand the confiscation of the whole of the murderer's property, in which latter case the property is handed over to the deceased's relatives. As a rule the latter course is adopted.

Homicide.—This seems to be treated in the same way as murder, except that the relatives may not retaliate, and the size of the fine differs according to the section.

Rape.—As far as I have been able to find out, rape is unknown among the Turkana, which fact is probably accounted for by the presence of several prostitutes in each village.

Adultery.—This gives the injured husband the right to kill the adulterer, but, should he escape, his relations are bound to capture him and hand him over to the injured husband. Failure on the part of the adulterer's relatives to effect the arrest of the accused necessitates the handing over of all the stock of the village to the injured husband.

Hurt.—The loss of an eye or a limb is punishable by the payment of 15 head of cattle to the injured party, while the loss of a tooth involves the accused to the extent of a cow.

Should a man be badly hurt, no action is taken until he dies or has completely recovered, when compensation is awarded. Should the injured man recover completely no compensation is awarded, though it is usual for the injurer to kill a bullock or goat for him at some time during his illness, but this is not compulsory.

The loss of a finger would appear to be too small a matter for compensation, but, here again, a goat is usually killed for the injured party.

Turkana custom on this point may be summed up as follows. A man should be able to take care of himself, and, unless he suffers some life injury, he is not entitled to the assistance of the elders.

Theft.—Theft is not considered to be a serious offence, and stolen property, if returnable when traced, is merely returned, no penalty being awarded. If the property has been consumed or otherwise disposed of, the accused is made to pay the full value. Should the injured party lose his temper and strike the accused, however, the provocation is considered to be sufficiently grave to cover such action.

Pregnancy in an Unmarried Girl.—All persons who have had sexual intercourse with a girl, who is unmarried and has become pregnant for the first time, are made to pay 30 head of cattle each to the girl's father. Should it be the second occasion on which the girl has become pregnant, every person who has had sexual intercourse with her since her last child is forced to pay 11 head of cattle to her father.

Abortion, being the Cause of.—Any person, who deliberately causes a woman to abort, is punished by the confiscation of his entire property, which is given to the woman's father.

13.—TURKANA CLANS.

There are a large number of clans (*ataker*) amongst the Turkana, each with its little peculiarities, but I have been unable to go into the subject as thoroughly as I might have wished. I have, however, obtained a few facts which I consider worth recording, even if only as a guide to future officers.

The only clans into which a man may not marry are those of his mother and father.

Most clans brand their male stock differently from the female stock, but not all. Others, on the other hand, have different brands for different species, but only one brand for both sexes of each species.

I here propose to append a list of the clans I have come across, with what few details I have managed to obtain regarding their peculiarities.

List of Nibelai Clans.

Ngaletho This is a very large clan, whose totem is ostrich meat.

Epong'a The totem appears to be the *epong'a* plant.

Ngaruk The clan totem is the crow (*kuruk*).

Ngaiap Their totem is the white-ant (*ngatapan*).

Irarak The name is the name of a tree, which is its totem.

Ng'iong'ore .. Their totem is the baboon (*echom*).

Woana The name seems to have something to do with "hurt." When these people milk, they are bound to spill a little in the fire before drinking.

Ngaruok I am told that the totem is thirst (*akore*).

Imedeo This name is derived from *tomyed*, to throttle. They act as the Woana in regard to milk.

Ipucho When a beast is slaughtered, these people are given a part (probably tendon) of the right hind knee, a piece of which must be swallowed.

Ngatioko The name has something to do with broken limbs.

Inkinom The totem is fire (*akim*). They follow the same custom as the Woana regarding milk.

Ngadanga .. These people keep their hair short, and twist it into points with fat and red earth. They probably originated from Samburu.

List of Nithir Clans.

Lalet All I know is that it is a large clan.

Eduiya The totem of the clan seems to be a sudden burst of distant thunder. Their women are not allowed to eat the inner portion of a bullock's tail.

Imothorokoi .. The name of this clan implies that they are failures: "What kind of people are these?"

Macharimkata .. The name is derived from *Amukat* (sandal).

Ithiger The clan is closely associated with sunstroke in some way or other.

Ng'olioroto .. Probably originated from Samburu. They alone may bleed animals with an arrow.

Itarapokolong .. This clan derives its name from the fact that a woman, during confinement, is shut up in the hut and not allowed to see daylight : thus, from *taparat* (sunrise) to *abong* (sunset). Actually it is from early morning to evening.

Meturona .. I am informed that the totem is the leaf. Their women may not drink water hot during confinement.

It will be noticed that I have given objects as the totems of most of the clans and not animals, and I should, therefore, just like to repeat that I have been unable to go into the question with sufficient thoroughness to enable me to make any definite statement on the point.

14.—Game Traps and Fishing Nets.

i.—*Game Traps.*

There is but one form of trap used by the Turkana, the size of the trap depending upon the animal to be captured.

As has previously been mentioned, there are two *ayitiella* or sub-sections, which are made up of game trappers. It should not, however, be imagined that these two sub-sections alone engage in the practice. At the same time, I gather that trapping is going out of fashion fast.

The trap consists of a circumference of several long sticks bound together, into which are bound a large number of thin "spokes" running to the centre, where a small opening is left. This wheel is called "*atachet*," the spokes merely being called wood (*agito*), which word is used of trees, wood, and branches. (Fig. 8.)

A hole (*agipan*) is dug, to a depth of about 3 ft., and the *atachet* is placed over the top of it. A noose, made of intertwined reims and called *akwal*, is placed over the *atachet*, the other end of the *akwal* having been firmly secured to a log, which is called *eloit*. (Fig. 8.)

When an animal treads on to the *atachet* its spokes give, and the animal's foot goes into the hole. When it withdraws its foot, however, the noose tightens, and the spokes dig into its skin, the *akwal* and the *atachet* keeping each other in position. The animal is thus fastened to a heavy burden and, after dragging the log for some distance, falls down in a state of exhaustion and is speared by the trapper when he comes to see the result of his handiwork.

The size of the *atachet*, *akwal*, *eloit* and *agipan* depend entirely upon the animal to be caught.

It will doubtless be held that the method is a very cruel one, and I have no desire to defend it, but I should like to mention that a number of ostriches owe

their lives to the method adopted by the Turkana. This may seem a curious remark, but when it is considered that the Turkana full-dress consists of hundreds of ostrich feathers per man, and that the Turkana, therefore, place a very high price on the birds, it will be seen that this method enables them to capture a bird, when it is

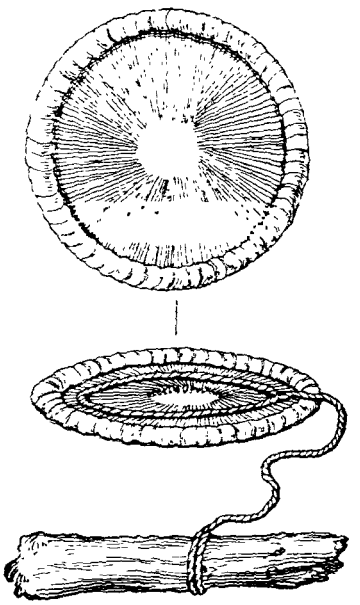


FIG. 8.—TURKANA GAME TRAP.

thoroughly exhausted, extract some feathers, and then release it. No Turkana will kill an ostrich, but no Turkana, on the other hand, will allow one to wander about without obtaining some of its feathers. It will, therefore, be seen that the method adopted has its advantages, so far as the ostrich is concerned.

ii.—*Fishing Nets.*

I have decided to deal with this subject here, because the Lake Rudolf Turkana, who are the only fishermen in the district, actually trap their fish.

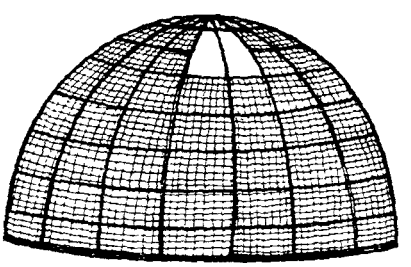


FIG. 9.—LAKE RUDOLF FISHING NET.

The trap or net is called *ngarelya*. I can think of no better way of describing it than by saying that it is the same shape as an English bee-hive. The framework

is made of a very pliable bush, or, rather, the branches of that bush, and the netting consists of rolled *mukoma* palm leaves. At the top of the net a hole large enough to admit one's arm is left open. (Fig. 9.)

The fisherman, holding the net in his right hand, wades through the water looking for fish. On sighting one, he follows quietly and, when quite close, clamps his net over it, forcing the net down to the bed of the river. He then inserts his hand through the hole left for the purpose, and, having extracted his fish, he fastens it on to a string which is wound round his waist.

The efficiency of these people is truly remarkable, which is just as well, considering that they have no other form of food, except the *mukoma* palm fruit and possess no stock.

15.—Religion.

The exact nature of the Turkana belief is very hard to understand. Although they have two distinct names for God and the Evil Spirit, namely "*Aput*" and "*Agipe*," they are unable to separate them, and say that the two constitute one person who lives in the skies.

It is believed that God first of all placed a man and a woman on earth somewhere very far west of Turkana. After that he sent down various animals to this couple, who were overpowered by them all, except cattle, camels, donkeys, goats, sheep, and dogs: thus the remaining animals became wild, knowing no master.

It is held that the Devil is allowed to wander about the world, his form being the snake. Should a man be bitten by a snake, any person who has stolen stock from him will at once admit the offence and pay up, as it is held that the Devil is adding insult to injury, which must on no account be allowed.

In the event of loss or disease, the Turkana call upon God to rectify the matter, crying aloud, "*Aput, tothekinere ng'atu!*" ("O God, release the cattle!"): or, should it be desired to curse someone, "*Aput, tura Lokol!*" (O God, kill Lokol!"). If something other than cattle or a person other than *Lokol* be the subject of the prayer, the words *ng'atu* and *Lokol* are changed.

The worst forms of the Devil are the *emun* (cobra), the *imorokot* (python), and the *ngupom* (puff-adder).

16.—Turkana Seasons (Epegaru) and Months (Ilapyo).

The Turkana year consists of two seasons: the wet season (*Akiboro*) and the dry season (*Akuma*), each of which is divided into six lunar months. It is my intention to record here the months to which each Turkana month corresponds, with their particular features, but such a correlation can, of course, only be regarded as approximately correct.

Akiboro (the Wet Season).

The name of this season is derived from "*akipi*" (water) and "*akiru*" (rain).

February ..	*Lokwang*	From "*ekwang*" (white). The end of the drought.
March	*Lodung'e*	From "*todung*" (to separate). Drought broken, heavy rain.
April	*Lomoruk*	From "*amoruk*" (thunder). Heavy storms everywhere.
May	*Titima*	From "*ititim*" (grass). Good grazing obtainable.
June	*Eliel*	From "*el*" (a bloom). Flowers appear.
July	*Loichoto*	From "*echoto*" (slush). Drenching rain.

I will here give rough notes on the rainfall during 1926 for comparison :—

February ..	Heavy rain during the first and last weeks of the month.
March ..	Heavy rain during the latter half of the month.
April ..	Heavy rain almost every day.
May	Heavy rain almost every day.
June	Occasional light showers.
July	Heavy rain during the latter half of the month.

Akamu (the Dry Season).

The word "*akamu*" in Turkana means "parched or scorched."

August	*Lothuban*	From "*athuban*" (thanks-giving). Much rejoicing over the good grazing left by the rains.
September ..	*Loitiak*	From "*kitiak*" (to make). "*Nye-dan*" ornaments are made this month.
October ..	*Lolong'u*	From "*along'u*" (bare). Very hot and dry.
November ..	*Lobo*	From "*ebo*" (a bitter fruit). This fruit is eaten with blood this month.
December ..	*Lorara*	From "*ararau*" (to fall). Leaves dropping off the trees.
January ..	*Lomuk*	From "*emuk*" (to cover). Very cloudy; rain blowing up.

Here I can only give particulars of the rainfall during August and September, 1926 :—

August .. One or two showers during the first week.
September .. Very heavy rain during the latter half of the month.

I should like to point out that the rainfall during 1926 has been the best Turkana has known for about ten years. Further, unlike average years, it has been universal, and not confined to the higher portions of the district as is usually the case.

It can be truthfully said that, with the exception of showers, which are too light even to produce grass, the lower half of the district often goes without rain for as long as five years at a stretch, but the higher half is more fortunate.

17.—GAMES.

By far the most popular game amongst the Turkana is wrestling (*akiliaka*), but not wrestling as we know it. The main rule of the game appears to be that one must keep one's fingers clasped behind one's adversary's back the whole time, until one is able to throw him over by sheer strength.

The struggle commences by each throwing his arms round the other's body, and interlacing his fingers behind the other's back.

The first move is to try to throw one's adversary from a standing position, by bending his head back until his knees give under him. If this method fails, each moves his feet back till the opponents are leaning to each other, chest to chest. After much struggling, the fight generally ends in one of the parties throwing one leg forward and lifting the other clean off his feet, when a quick motion sideways will hurl the loser on to his back. It is not necessary to hold a man down, the mere fact of his having lost control of his feet giving the other the victory. Tripping is allowed and considered a sign of exceptional skill.

The universal game of "*bao*" (*mancala*), which is called "*ingilith*," is played by the Turkana, stones and holes in the sand being substituted for beads and a board.

18.—TURKANA NAMES FOR OTHER TRIBES.

Swahili ..	*Kaichumba.*	Dorobo ..	*Ngobotok.*	Jiwe ..	*Ngie.*
Suk ..	*Ng'ube.*	Marakwet	*Chebeleng.*	Teutho ..	*Kilak.*
Samburu	*Ngor.*	Wakedi ..	*Ngumama.*	Acholi ..	*Kamchuru.*
Somali ..	*Nchamal.*	Akamba ..	*Ngambaa.*	Masai ..	*Ilaikipe.*
Rendile ..	*Randale.*	Abyssinian	*Ngatulai.*	Gishu ..	*Mgusi.*
Arab ..	*Imarabuta.*	Topotha ..	*Tobotha.*	Sebei ..	*Chebei.*
Nabian ..	*Ilubai.*	Dodoth ..	*Dodotho.*	Europeans	*Thuroi.*
Boran	*Boran.*	Karamoja	*Karamajong.*	Indians ..	*Maidi.*

All foreigners are *emoit* (enemy) to the Turkana, but the word has little significance, having become the equivalent of "stranger."

19.—Turkana Place-names and their Meanings.

Loitruk	From *arok*, a hump. So called on account of the summit rock representing the hump of a bullock.
Kailongol	From *ailong*, a benefactor. There is always grazing to be had here.
Lotong'ot	From *etoko*, a head-string. A colossal bullock was sung about and killed here. It had huge horns and many head-strings.
Nadume	From *adume*, acacia
Koumukun	From *koumukun*, an insect.
Lukwamothing	From *ekwang*, white: and *amothing*, rhino. A white rhino is said to have died here.
Karuthugwil	From *ithugwil*, bent horns. Site of a big meat feast.
Long'ethia	From *egiete*, to fight. Site of a riot.
Kang'etet	From *ng'etet*, acacia seeds.
Karunkyukuri	From *aroniki*, miscarriage: and *ekuri*, giraffe. Giraffe said to have died here, as a result of miscarriage.
Kobanyet	From *ebanyet*, shaving. Turkana elder was killed here by elephant and many people shaved.
Kula	From *kula*, beating. Site where *eadung* seeds were beaten out.
Kolong	From *akolong*, dry. Devoid of grazing.
Nakwakal	From *ekwang*, white: and *ekal*, camel. White camel was killed here.
Kerio	From *etigeri*, a cure.
Kochodin	From *ichidigu*, to scoop up water from a hole.
Changei	From *echangei*, long.
Bwilbwil	From *aburilibwil*, neck fat.
Ayangyang	From *yanggang*, still waters, swamp.
Lokwiyam	From *ekuriyam*, ringing stones.
Namuru	From *amuru*, a rock.
Kakorotom	From *akuru*, to dig for water.
Nabeiye	From *abeiye*, ostrich egg.
Logetiowei	From *edoket*, a slope: and *eowei*, acacia.
Kang'akupur	From *kaipura*, to swear.
Kalokwanyang	From *otinyang*, a yellow bullock.
Laplap	From *laplap*, lapping of water.
Lokotur	From *katur*, an insect.
Athugwiliatom	From *athupril*, large tusks: and *atom*, elephant.

Atarukot From *atarukot*, a bird.
Kaling From *aliling*, goat dung.
Nakenna From *amang'akina*, the only road.
Lotiokopel From *kapel*, half-white, half-black.
Kang'tu From *ng'itu*, testicles.
Namethekin .. . From *amethek*, a sheep.
Nakeng'et .. . From *akeng'et*, resting-place.
Lokinopop .. . From *epopoi*, large under-lip: an elder's grave.
Khalabata From *etatat*, open country.
Kaitakwal From *itak*, heifer: and *nikwel*, spotted.
Lokichar From *akichar*, a ladder.
Kakurio From *akuri*, a pigeon.
Katiha From *kitilak*, overflowing of water.
Lokorokoro From *korokoro*, sounding of bells.
Lotuna From *etuna*, death trap for stock.
Bichibit From *bichibit*, the noise of squelching mud.
Chemrieme From *iriemun*, a meeting-place.
Korenyang From *lokori*, a bullock: and *ingang*, red.
Namudat From *amodyo*, theft of ostrich eggs.
Loiyapuwa From *loiya*, deep water-hole: and *apuwa*, dust.
Keokunyuk From *ekunyuk*, ground squirrel.
Akelel From *akelel*, rushing water.
Nakathiangein From *akai*, a hut or nest: and *ng'ein*, a small bird.
Lothogam From *qham*, noise made by walking over small stones.
Boloin From *ibole*, mouth of a spring.
Nachui From *chui*, the call of small birds.
Lomanyang'aparat .. From *emunyen*, red soil used for plastering the hair.
Long'oleakagong'ok .. From *ong'ole*, mukoma fruit: and *agogong*, hard.
Kalokwel From *kalokwel*, name of a permanent resident.
Nakor From *ngor*, Turkana name for Samburu. Site of a fight.
Nakoret From *qakore*, to distribute. Site where blood-money was distributed.
Loriyu From *ewoyi*, long and straight.
Katigithigiria From *atig*, to cover: and *ethigiria*, donkey. Walls of water-hole fell in on a donkey here.
Nolong'arang'an and Ong'olarang'an .. From *ang'olol*, river: and *arang'an*, red.

Kadokoichin	From *kado*, below; and *achin*, dung. Dung seen floating down a river.
Lomothekethil	From *emethek*, sheep; and *ethil*, half-white, half-black.
Lopirapira	From *pirapira*, to test for water by digging in a spear.
Naliakat	From *akilek*, to vomit. People drank water after herd of elephants and vomited.
Ng'oritiang	From *itiang*, wild beasts.
Kamuge	From *emak*, dark-coloured bullock.
Kanamacho	From *kanamacho*, name of permanent resident.
Lomello	From *lomello*, dried seeds.
Silali	From *elal*, large, outstanding.
Lokupor	From *ekupor*, never-failing swamp.
Loichererith	From *erith*, Leopard.

20.—WITCHCRAFT AMONGST THE TURKANA.

Witchcraft amongst the Turkana is extremely common, but witch-doctors appear to be few; certainly Kolosia has not been worried with any doctors, since the death of Kolitiang in about 1921.

The type of witchcraft used in Turkana is the "evil-eye," which is called "*akapilan*," and it would appear that a large number of Turkana are supposed to be capable of casting the spell over others.

The culprit is discovered by the "casting of sandals" (*akilamalam*), which consists of throwing a pair of sandals up into the air, and, when they drop, reading the meaning. All Turkana appear to be able to read the meaning, though some are more capable than others. When the offender has been identified, by this means, he is taken to the village, and the sick person is washed in cold water in his presence after which the excreta of the man with the evil-eye are smeared over the invalid's body. As far as I know, the offender receives no punishment, but a relation of the injured party is perfectly justified in giving the culprit a sound thrashing, if he is big enough to do so and can prove that the offender actually does possess the power to cast spells.

Should a man be found guilty of repeatedly casting spells, he will be forced to leave the neighbourhood.

21.—MISCELLANEOUS.

i.—*Purchase of Spears.*

In the past the Turkana bought all their spears from the Ngie, but have during recent years bought almost entirely from the Suk. The reason for transferring

their custom from the Ngie to the Suk is that the Ngie, since the importation of rifles into Turkana, have refused to come so far south. In old times they used to come to Ngobotok and complete their transactions there.

I have heard it said that the Turkana make a special kind of spear, but the statement is absolutely incorrect, as the Turkana have not the faintest notion how to set about making a spear even, nor yet have they got the metal.

The Suk charges for spears are considerably higher than those of the Ngie, which fact is easily explained, when it is remembered that the Turkana originally came from Ngie, while the Suk have been subjected to raid after raid from the Turkana for years.

I append a list of prices charged by both the Ngie and the Suk for comparison :—

Charges for Ngie Spears.

1 spear	1 goat or sheep.
or, alternatively,	
4 spears	1 cow or donkey.
10 axes	
20 metal waist ornaments	

Charges for Suk Spears.

1 spear	2 goats or sheep.
4 spears and a little tobacco	1 donkey.
5 ,, ,, ,, ...	1 cow.

ii.—*Numerals.*

It will have been noticed that the figure "4" occurs again and again in all Turkana ceremonial. This repetition of the number worried me for some time, but I could get no explanation as to why it was used more than any other number. Eventually I discovered that it originated from the period of a woman's confinement to her home before birth. Apparently it is held that women originally tried three days, but this resulted in the death of the child. They then tried five days but, again, a death occurred. At last someone had the brilliant idea that a cow has four teats, and this number was tried, and proved so successful that it became the most popular number. Next to this, number "2" seems to be the most popular one, and I think one may again put the popularity down to the number of teats of a goat or some other animal.

As far as I can discover, the Turkana have no unlucky numbers.

iii.—*Salutations.*

The ordinary form of salutation is as follows:—

Salutations.	Answers.
"*Mata*"	"*Mata.*"
"*Matapaai*"	"*Matarobo.*"
"*Matagoaq*"	"*Atarqun.*"
"*Matiriama*"	"*Nq'ataro.*"

During recent years this form of salutation has been extended by a repetition of the word "*Mata,*" followed by the names of different objects, thus:—"*Mata thapi,ia,*" "*Mata ngula,*" "*Mata akipe,*" etc., but this extension has been instituted by foreign tribes, who get to know a few words and wish to make use of them all.

The original form of salutation which I have given above is the only form used between men, even if they are closely related.

The salutation a man gives to a woman is the same as that used by one woman to another, namely, "*Na,*" to which the other woman replies "*Paiya.*" This is repeated twice and no other form of salutation exists.

The custom followed by a Turkana when visited in his village by a stranger is worthy of note.

On his arrival they will talk, and the stranger will be given some milk to drink, or even some meat to eat, but no words of salutation or welcome pass the lips of either. After some hours, one or other will salute the other in the ordinary manner as if they had only just met. Sometimes the salutation does not take place until next day. I have myself seen a minor form of this. It happened in one of my camps, when two elders came to my tent for shelter from the rain which was falling in torrents. The old men carried on a long conversation, which must have extended over a period of at least an hour, and then began the usual salutations all of a sudden. I thought at the time that one had suddenly remembered his manners, but, when this occurred on several occasions, I made inquiries, and was informed that the procedure was quite natural. In the same way, no Turkana will utter a word of salutation to another against whom he has a grudge, until the matter has been argued out.

iv.—*An Eclipse of the Sun* (*Atoma*).

When an eclipse of the sun occurs, it is considered that the sun is sick, and it is necessary for every stock-owner to kill several goats, and, having extracted the undigested food from the intestines, to sprinkle it over the stock. Failure to do this will result in stock disease. An eclipse is called "*atoma.*"



FIG. 3.

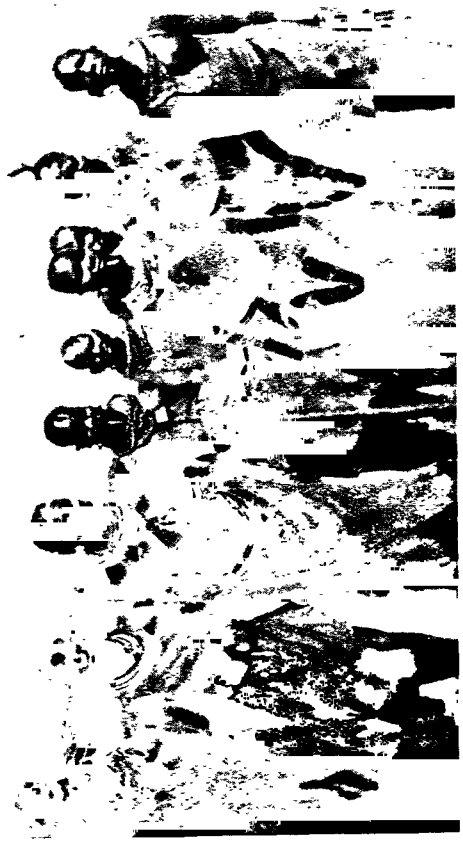


FIG. 1.



FIG. 2.

FIG. 1.—TURKANA WOMEN. THE ONE ON THE EXTREME LEFT IS A MARRIED WOMAN AND WEARS THREE SKINS (*see* p. 183). THE SECOND FROM THE LEFT WEARS ONLY ONE SKIN (*p'loth*), FROM WHICH ONE MAY PRESUME THAT SHE IS UNCLEAN (*see* p. 176). THE SECOND AND THIRD FROM THE RIGHT ARE YOUNG UNMARRIED GIRLS, WHO APPEAR IN *arioh* AND *ekon* (*see* p. 182).

FIG. 2.—TURKANA WOMEN. THE HAIR IS TWISTED INTO LONG THIN CORDS, BOTH SIDES OF THE HEAD BEING SHAVEN.

FIG. 3.—TURKANA WARRIOR IN TYPICAL DANCE ATTIRE.



FIG. 1.



FIG. 2.



FIG. 3

THREE VIEWS OF TURKANA DANCES

v.—*Turkana Dances and Songs.*

There is little to say regarding Turkana dances, as they consist almost entirely of a large number of men walking about stamping their feet (Pl. IV). The formation is generally a circle, but it is varied by a bunch of people leading the performers round a large circle and suddenly making a rush to the centre, or by the dancers following a zig-zag route. In the dance, in which they are gradually led away from the centre and suddenly rush back, all the performers drop to a squatting position. The zig-zag course dance is the giraffe dance, and the body is thrown backwards and forwards in imitation of the motion of a giraffe's neck movement.

I have found that, to start with, one finds the Turkana songs extraordinarily attractive, but that they soon get on one's nerves, like most native songs, on account of the monotony. I can think of no better way of describing a Turkana song than by saying that the leader's part consists of a series of screeches and yells, the wilder the better, while the reply of the majority is a deep soothing drone, not at all unlike the chant of a European male choir.

The women form a circle round the outside of the dance, but are absolutely disregarded by the dancers, unless they get in the way, in which case they are severely reprimanded or carelessly pushed out of the way: in fact, it is difficult to see what fun they get out of a dance.

Nothing is carried in the hands during a dance, the performers' hands being linked together for most of the dances.

LUNAR AND SEASONAL CALENDAR IN THE TROBRIANDS.

By Bronislaw Malinowski.

A system of reckoning time is a practical, as well as a sentimental, necessity in every culture, however simple. Members of every human group have the need of co-ordinating various activities, of fixing dates for the future, of placing reminiscences in the past, of gauging the length of bygone periods and of those to come.

The practical need of time-reckoning arises out of any somewhat complicated work which has to be distributed over a prolonged period of time, and in which a number of people have to co-operate. When the soil is to be tilled or a long fishing or hunting expedition undertaken, dates have to be fixed by reference to some recurrent natural phenomena which can be foreseen and defined. When a magical or religious festival is to be held, there must, as a rule, be preparations, material as well as spiritual, and it is necessary to place them within the scheme of other activities. Again, when people from various localities, at times not easy of access, have to be summoned and later on to foregather, there must be some way by which a future date can be defined for some time ahead.

To such practical necessities must be added the sentiment about the past. Death of friends or relatives is remembered for years. Great events of tribal importance, warlike expeditions, especially grand festivals, are kept in memory by members of all human societies.

Important or dramatic incidents, such as a year of famine, in which many people died of starvation, or a pestilence, or a serious quarrel within the community, a slave raid or a head-hunting expedition, are usually remembered for long, and placed in their proper place within the retrospective vista of past ages. Even the minimum of historical interest which is always found among the "simplest savages" requires a system of chronology which, although it need not go very far back, and usually loses itself soon in the mists of legend, yet, such as it is, forms an important attempt at a system of co-ordinating the vague data of human history of natural process.

All these wants, whether practical or sentimental, do not determine, however, or even indicate the manner in which time has to be counted. To us, with our present astronomical knowledge, it is clear that precision, as well as avoidance of the danger of a vicious circle in time-counting, can only be achieved by measuring time astronomically. It is also easy to see that an elementary astronomical calendar would not be beyond the mental range of the simplest savages. With all this, only

minute observation of how natives cope with the problem, how they frame it and how they adjust their knowledge to their requirements can give a satisfactory answer to all questions.

A number of detailed accounts should be forthcoming, each showing the natives' state of knowledge in astronomy and meteorology, their interests in natural phenomena, and the manner in which they utilize their data for their chronological requirements. In this it is especially important to reproduce the native perspective, *i.e.*, what appears to them best adapted for time-reckoning, what most relevant among recurring natural events, and in what way they try to harmonize the various possible systems of time-reckoning.

Some such data upon native time-reckoning are here given with reference to the Trobriand Islanders of North-West Melanesia. They live in the stage of polished stone, and their activities, such as gardening, fishing, overseas expeditions, tribal warfare and festivities, burial and commemoration rites, require definite calendar arrangements.[1] As a matter of fact, they are able to define a date several months ahead. They can also count the time several generations back and place an event approximately within a certain season of a certain year.

In defining time, they use a number of elements which can be roughly classified into three groups—the astronomical, the meteorological, and the cultural. The first are based upon observation of the stars, sun, and moon: the second upon recurrent changes in wind and weather: the third on human seasonal pursuits. It will be well to keep this tripartite division in mind, and, first, to say a few words about their astronomical knowledge.

THE ASTRONOMICAL ELEMENT IN NATIVE CALCULATION.

The periodicity of the solar movements, the double yearly passage of the sun overhead—its southerly path in winter, northerly in summer—are all known to the natives but never used in framing the idea of a solar year: in fact, there is in the native remarkably little interest in all these established facts about the main heavenly body and the relation of its warmth to fertility. When pressed, the native will say that the sun walks or moves across the sky: that it dips down at sunset: that afterwards it moves round under the rim of the earth, from the west along the southern horizon to the east and rises again in the morning. But even this theory would be advanced by the most intelligent natives only, and that without

[1] A detailed account of social and tribal life, as well as of religious and magical ideas of the natives, will be found in Professor C. G. Seligman's work on the *Melanesians of British New Guinea*, 1910. Additional information has been published by the present writer, on gardening ("Primitive Economics," *Economic Journal*, 1921, p. 1): on warfare and fishing (*Man*, 1918 and 1920): on religious beliefs (*Journ. Roy. Anthrop. Inst.*, 1916): on overseas expeditions (*Argonauts of the Western Pacific*, 1922): on certain aspects of sociology (*Crime and Custom*, 1926): on mythology (*Myth in Primitive Psychology*, 1926): on sexual life (*The Father in Primitive Psychology* and *Sex and Repression*, 1927).

the least enthusiasm or interest. Any other question would be answered by an *oyseki* ("I don't know").

The main active attitude taken up towards the sun consists in the *dayagi*—the magic of sunshine. It is the counterpart of *to'arikaua*—the rainmaker's magic. But the magic of sunshine is merely the negative, the reverse of rain magic: it is always classified as evil magic and rather considered as the prevention of rain than as the making of sunshine. It is one of the main sources of the prestige surrounding the paramount chiefs.[1] In folk-tales the sun is sometimes personified, but actually figures there only in a few fairy tales, told for amusement merely. Only once does it appear in a serious legend, which accounts for the origin of fire, and in which the story begins with a statement that the sun, the moon, and fire were born by the same woman. The rest of the tale is concerned with fire only. As to any cryptic or symbolic appearance of the sun in any other story, perhaps it might be found by some arm-chair philosopher, belonging to the famous "Natur-mythologische Schule," but an intelligent native, or even anthropologist, would only smile at it.

The sun is mentioned not infrequently in formulæ of magic, but in a purely descriptive manner: it then usually expresses quickness of action. Thus, for instance, an event normally lasting over a few days is described in a spell as beginning in the morning and as terminating in the afternoon. Examples of such formulæ can be found in the writer's *Argonauts of the Western Pacific*.

This style of magical invocation stands in close relation with the main practical use made of the sun for time-reckoning, *i.e.* the meaning of the times of the day. A comprehensive series of expressions describe early morning, the time before sunrise, sunrise, the time when the sun's rays are horizontal, tilted, overhead, aslant, toppling over, right down. As can be seen, references to the position of the sun are predominant.[2]

As to stars, the native has no clear idea of their connection with the movements of the sun. They note, however, that at certain seasons certain configurations of stars appear in the sky in the evenings. They have names for a number of constellations, for the Pleiades, for a part of Orion, the Southern Cross, and many others; and they know in which season these stars are visible, but they do not use them as a means of measuring times. Personified stars appear in one myth only.[3]

The moon plays a far greater part in the life of the natives than either the sun or the stars. But here also there are no traces of the pseudo-scientific curiosity frequently ascribed to the natives. They do not worry about the cause of the lunar changes or phases: they have no tendency, practically or mythologically, to interpret the lunar cycle in any symbolic or cryptic form. The moon figures in one story,

[1] *Cf.* The writer's *Myth*.

[2] *Cf.* the writer's monograph on "The Natives of Mailu," published in the *Trans. Roy. Soc. S. Austral.*, 1915, p. 537. In expressions there the word for sun (*nina*) is also predominant.

[3] *Cf. Argonauts of the Western Pacific*, chap. xii, sec. 5.

as being born of a woman, and in another it is personified. But to direct questions the natives will answer, "the moon is the moon, just as you see it, and neither a man nor a woman, nor any living thing."

There is no magic to do or to undo moonshine, and no lunar ritual of any sort. The only magical references to the moon are to be found in the spells of love and beauty, since, as we shall presently see, the fullness of the moon is used as a simile of fine appearance. Natives have no belief about the influence of the waning or waxing moon on vegetation, and the connection between certain months and the various economic pursuits, especially gardening, are purely empirical. They will be described presently.

The enormous importance of the moon in tribal life, and the interest of the natives in it are entirely direct and non-symbolic. In a country where artificial illumination is extremely primitive, moonlight is of the greatest importance. It changes night from a time when it is best to be at home round the fireplace, to a time when, in the tropics, it is most pleasant to walk or play, or to indulge in any outdoor exercise. This brings about a periodical heightening of social life in the village at the second quarter of the full moon. In all festivities, all enterprises, and on all ceremonial occasions, the climax is reached at the full moon.

The first quarter, or, as the natives say, the time from the first appearance of the moon to the moment when it stands overhead at sunset, is called the "unripe moon" (*tabugegudu*). The individual days of this quarter are not named.

The second quarter is called "the high moon" (*bitowota tabukola*), *i.e.* when the moon is high in the sky in the evenings. But this appellation which marks the whole quarter is specifically applied also to the 1st and 2nd days of the quarter indiscriminately, that is, to the 8th or 9th day of the moon. After this the natives have different words for each day:—

Names of Days in Second and Third Quarters of the Moon.

Second quarter	10th day	*Bitovilu.*
	11th "	*Crokayuo.*
	12th "	*Yomkovilu.*
	13th "	*Yapilu.*
	14th "	*Valatu.*
Third quarter[1]	15th "	*Woulo.*
	16th "	*Tolukwaya.*
	17th "	*Namisu.*
	18th "	*Taygakibuli.*
	19th "	*Misilowa.*
	20th "	*Sidaya.*
	21st "	*Kalubuwotu sepu.*

[1] 18th also used for name of third quarter (*Taygakibuli*).

The last quarter is called *odubiliviyaka* (in the great darkness), and there are no individual names for the days.

The 13th day (*yapila*) is regarded as the beginning of the full moon, and on this day begins the series of three successive festive days. In ordinary village entertainments, usually associated with dancing and amorous transactions, the girls often go to solicit a full-moon present (*iyapalaygu*) : " Give me the present of the *yapila* ! " When the new moon is first seen, the village children will emit a long yell, " *katugogova.*" This is as far as any ritual recognition of the moon goes. The 14th day (*vala'ita*) is regarded as the full moon at its highest, while the 15th day (*woulo*) closes the full moon.

The general word for full moon is " *bwata.*" It covers the period of three days, and at times the longer period of five days, from the 11th to the 15th inclusive. The new moon is also called by a general term, " *kapatu* " (narrow-faced, ugly) : when it grows it is said to become " beautifully full " (*bibubowatu*) until it becomes quite full, that is, " *bwata.*"

It is clear that this system of distinguishing the quarters divides the moon into four weeks, and allows any day in the moon to be easily determined. The days in the first or in the last quarter are not named.

THE SEASONS IN NATIVE LIFE.

In Melanesia the main division of seasons is established by the two prevailing winds. The trade wind from the south-easterly direction blows during the winter months, from May to November. It is a regular wind, beginning every day late in the morning and reaching its full force in the afternoon, continuing for a few hours and dying out at dead of night. It is rarely absent, though there may be a day when it is weak and shifts a few points of the compass from its regular direction. During the full trade season land breezes are rare in the islands, so that this wind is not favourable for sailing with unwieldy and primitive craft.

The monsoon from the north-west is quite a different wind. During its sway, which lasts from December to April, there are often days of complete calm, or of light north and westerly breezes, and then from time to time the monsoon sets in with sudden force, producing anything from a storm to a hurricane. In this season the skies are usually clouded, there is much more rain, and it is also the season when vegetation develops. On calm and clear days the full warmth of the tropical summer is experienced. The hottest days, however, occur in East New Guinea in the months between the two seasons, *i.e.* April and May, and again November and December.

The division of the seasons is associated with the growth of vegetation, which starts its new lease with the beginning of the wet season. The trade wind, on the other hand, is the dry season, in which many fruits and plants ripen, while in bad years there occur droughts and stagnation. This division is most pronounced in

the case of cultivated plants, when the preparatory activities, including the cutting and burning of the bush, have to fall at the end of the dry season, while planting is simultaneous with the first rains. So that the growth of cultivated plants falls at the beginning of the general revival of nature, and the harvest falls at the beginning of the dry season. The period of gardening thus covers the months of the monsoon, and it extends on the other side into the dry season.

The monsoon and the calm interval between the two winds are also the only suitable times for two other important activities—fishing and sailing. Fishing is difficult, when not impossible, during the south-east winds, for at that time the strong, cool wind exposes the men to great hardship when diving and wading. Again, with native canoes which cannot beat, or only imperfectly, sailing has to be done at a period when winds vary and when land breezes, so important in coasting, are available.

We can see already that the intensity of economic life is not evenly distributed over the year, but concentrated on the months of the wet season, of the calms, and of the variable winds. Roughly speaking, it is the time from August to September, and from April to May, varying with the locality. And this brings us to the native point of view which will enable us to understand the cycle of the year as it appears to a Trobriand Islander, and as he will often describe it, using the names of the lunar months as his system of time co-ordination.

THE NAMING OF THE MOONS.

The trouble with the untutored observer of savage customs is that, not being burdened with theoretic questions and ideas, he often cannot see the problem in a given range of facts. He does not, therefore, enquire into every detail, and supplies us with scanty and uninteresting data. The trouble with the ethnographer in the field is that he sees too much of the merely technical problems, that he is prone to draw the conclusions too rapidly; one might almost say that he tries to get at the core of the problem too quickly.

My own experience in New Guinea, as regards the question of time-counting, was typical of this latter shortcoming. An amateur probably would not have troubled about the native methods of constructing the calendar, or else, if he were one of the first-class amateur observers to whom we owe so much, he might have obtained and given us the natives' own story of the moons, which again, in the hands of an amateur of comparative ethnology would have yielded the correct solution of the problem of the calendar. Being prepared to formulate a problem of time-reckoning, and keen to solve it, I approached the matter with a number of definite concrete questions. I wanted to know whether the natives named the moons, how many names they possessed—twelve or thirteen, and how they harmonized solar and lunar time-counting. During a month's preliminary work among the Motu of the

south coast. I had found out that the natives had thirteen names for moons.[1] Having found that they had thirteen moon-names I was satisfied that the natives knew the real number of lunar periods in a year, and I assumed that they counted time by reference to these periods. In a more extensive study of another tribe on the south coast of New Guinea—the Mailu—I found that the natives have no names for moons, which was also, to my mind, a final and satisfactory answer to the problem I had before me.

When I came to the Trobriand Islands, I proceeded with enquiries on the same scheme, but here the first difficulty was that, although there existed names for various moons, there were not thirteen, and it was difficult to find out how many names there were. From some I obtained ten, eleven, or twelve, and sometimes, under pressure, thirteen, but it was clear that there was no universally known figure. As a rule, the moons would be classified into two groups of five with a moon or two regarded as intermediate ones. Thus there were certain difficulties as to the first question of how many moons the natives knew during the year, and it was clear that unless the first question was answered, the idea of a calendar with which the problem should close was inapplicable.

The real trouble was, that the problem was too rigidly formulated. I took it for granted that when natives name moons and count them, this is for the purpose of time-reckoning, whether with twelve or thirteen months covering the year, ill or well—and I assumed that the whole scheme was a system of time co-ordinates. The correct procedure, however, would have been not to assume a given use or function in the scheme, but only to enquire into it. Having found that moons are named, the next step should have been to see in what context and manner the system of moon-naming is used. In other words, the next step should have been to divest myself of our own mental and cultural habits. We name moons for calendar purposes, and we use the calendar to divide and count time and to fix dates; and with us the whole system with its many ramifications is a system of time co-ordinates. This, however, does not mean that a similar system obtains in simpler cultures.

As a matter of fact in the Trobriands the moons are used rarely and only under special circumstances for counting time: the whole system of naming and arranging moons has no special place in their time-reckoning, and all this can be understood only by reference to the social and economic ideas of the natives.

First of all, it is necessary to realize that the cycle of a year is not defined or determined for the natives by the position of the sun or of the stars or by a given number of moons. This latter, as already mentioned, they never know off-hand, not even the most expert gardeners or magicians, but find it out by naming the moons one after the other and counting on their fingers. What really determines the cycle of the year to the Trobriander is, above all, the economic round of gardening.

[1] *Cf.* footnote to pp. 505–55 in the monograph, "Natives of Mailu." *Trans. Roy. Soc. S. Austral.*, 1915.

The testimony of linguistics, especially etymology, is usually of very little value, but in this case the identity of the words *taytu* ("year" and "yam") represents the real native point of view. As a matter of fact all other tribal activities are subordinated to this one.[1]

The year is subdivided into the time when the gardens are unripe and into that when they begin to mature. The festive and ceremonial season depends on the harvest, and occurs after it. The sailing and overseas expeditions are dependent not only on the winds, as they are never undertaken in the early part of the monsoon when conditions would already be propitious, but only after the main part of the garden work is over. The whole native life, their conversation, interests, even passions, centre round gardening, the display of food, and skill and efficiency in that pursuit.

With all this there is associated an important fact that dawned on me gradually, by mere dint of native repetition as I became accustomed to their ways and modes of thought: all the practical counting of time, all reminiscence of past events, all the fixings of dates is done by reference to gardening. The native in defining a period or placing an event will always say: it was done at such and such a period of garden activity—*o takaywa*, during the clearing of the scrub (lit. in cutting); *wa gabu*, in burning (*i.e.* during the period that the cut and dried scrub is being burnt); *wa sopu*, in planting time: *o kavatam*, when the vine supports are placed in position: *o pwakova*, during weeding: *wa basi*, during the removal of the surplus tubers; *o kopo'i*, during the trimming of the vine: *watum*, during the first taking out of yams: *o tayoyuwa*, during the harvest proper.

These divisions of time are obviously not very exact. There are also permanent differences according to the district. In one place, where the big long yams form the staple food, the harvest occurs much earlier, and the whole cycle of gardening ends sooner. In the swampy districts, where the taro is the staple food, gardens start earlier and are harvested earlier. In the main agricultural districts, where small yams form the main crop, harvest occurs at least two months later than in the earliest yam districts. With all this, this system of time-reckoning not only refers to the real interests of the natives, but to all the really relevant events upon which their plans and arrangements depend.

This calendar is not only psychologically the most adequate, but in all practical arrangements the most effective. If the natives fixed an expedition for such and such a moon, they might or might not be able to keep to it, but when they say they will go at the time of weeding, when the man's labours in the gardens are over and the women's work begins, they are giving the time at which they will actually be able to go.

[1] The reader may be referred to the publications previously mentioned, especially the article on "Primitive Economics" in the *Economic Journal*, *The Argonauts of the Western Pacific*, and *Crime and Custom*.

Thus the real framework of native divisions, as well as their picture of the year, is represented by a succession of activities in garden work. This, however, does not mean that the counting of the moons is quite superfluous. To the garden magicians, and the elders who plan gardening and other events of tribal life, feasts, expeditions, and mortuary ceremonies, an independent scheme of time-reckoning is still necessary, and the names of various successive moons are very convenient. It is in this somewhat esoteric and specialized way that the naming of the moon is chiefly used.

Let us now look at the successive names of the moon. The year begins for the native with the end of the old garden and the starting of the new. This covers the period of all three moons, the moon during which harvesting is done (*kuluwasasa*), the moon of festivities after the harvest (*milamala*), and the moon which follows (*yakosi*). These names are universally known to the natives and they are used by everybody.

But there is no general consensus as to when the year really begins: they have no "new year" or "new year's day," nor would such an idea be of any importance to them, as they have no system of chronology of years as a sequence.

It will be best to represent the moons in a schematic form and to comment on this table.

Table of the Moons.

Malia	1. Kuluwasasa	...	...	...	...Big harvest ...	Takayva. Gabu.
	2. Milamala	...	...	...	... Milamala festival.	
	3. Yakosi ...	...	Geguda	Geguda	... Usigola festival.	
	4. Yavatakulu	...	...			
Molu ...	5. Toliyavata	...	...	...		Sopu.
	6. Yavatam	...	...	...		Kavatam.
Molu ...	7. Gelivilavi	...	...	...	Growth of plants ...	Puakova.
	8. Bulumaduku	...	Matuwo	...		
	9. Kuluwotu	...		...		Basi Tam.
Malia	10. Utokakana	...	...	Matuwo ...	Unimportant period	Takayva.
	11. Iaybisila	...	...	...		
	12. Yakosi	...	...			

Note.—About the third month the north-west (monsoon) season begins; at moon 8 the south-east season starts.

The most important point is to realize clearly in what circumstances this scheme of moon-naming is used, how it is used, what services it renders, and what interest it arouses. Only such functional knowledge can give us a real insight into its nature.

The actual practical use made of this moon calendar is not very extensive. At times when meetings of elders take place in moon 1, they talk over, and more or less ceremonially and formally decide, plans for the next year. The annual festivities invariably fall in the second moon, but at times the community may decide to extend these to the third moon: they may then have to modify slightly the course of gardening, or to postpone, perhaps, the *kula* (overseas expedition), and finally

to arrange when they will come back and start harvesting. This association of feasts, sailings, and ceremonies with the moon is the more important, as we know all culminating events are celebrated at full moon, while the preliminary activities are confined to the preceding period of twenty-eight days.

In such discussions moons are sometimes named and counted. It is not difficult to see that this brings the first six or seven moons into prominence, or when an important overseas expedition is planned, interest may go as far as the eighth or ninth moon. In such cases, apart from canoe building and launching, and apart from the discussions of the trip itself, the return journey may fall as late as the beginning of the Trade wind, when the natives have to go south and can come back with the south-easterly wind.

The interest in the moons following the eighth is very slight indeed. There are those when the south-easterly is blowing and no fishing or sailing beyond the return journey can be done, when in the gardens the most important activities are at an end, and only the preliminary harvest is in progress. This begins early, for often the storehouses are exhausted as early as in the fifth or sixth moon, and the natives have to rely on wild plants from the bush, which they dislike. They, therefore, begin as soon as possible harvesting the early or subsidiary gardens called *kaymugwa*. Their interest in time-sequence will become focussed when the big harvest is in full blast, and when, after that, the festivities begin to take place in the moon of *milamala*.

A few more words might be said about this moon and the events which name and determine it, as well as the manner in which the moon is fixed in the three different districts of the region.

This moon is named after a strange marine annelid, the *palolo* worm (*Eunice viridis*), called by the natives of the Trobriands "*milamala*." It makes its appearance on the surface of the sea for spawning only once a year, at the full moon falling within the period from October 15th—November 15th.[1] This event takes place only on the most southerly end of the district, on the island of Vakuta, for the annelid appears on the reef running between Vakuta and the island of Sanaroa in the d'Entrecasteaux archipelago. The Vakutans catch it in small nets on the night of its appearance, when it is also ceremonially roasted and eaten. The full moon at its appearance is called the *milamala* moon on the island of Vakuta. There also the annual feast, which includes harvest rejoicings, ceremonial visits, and a series of religious rites associated with the return of the dead, is held at a *palolo* season.[2] But the same festival is always held one month earlier on the main part of the island, in the northern half, and a month earlier still in the southern half and

[1] These dates have been obtained from natives, and I was not able to check them with any competent naturalist.

[2] *Cf.* the writer's article on "Baloma: the Spirits of the Dead in the Trobriand Islands" (*Journ. Roy. Anthrop. Inst.*, 1916).

outlying islands, while the island of Kitava in the east celebrates it yet one month earlier. This shifting coincides with the above-mentioned differences in harvest-time dependent on the different staple produce cultivated in each district. The difficulty in fixing the date comes from the fact that the standard *milamala* held in Vakuta, which all the natives acknowledge as infallible, comes last.

Other places which depend mainly on the state of the gardens make mistakes according to whether the crops ripen early or late. The small importance of the lunar calendar is shown in the fact that in such cases, there is only some chaffing and a jocular reference, the natives saying that such and such a district "has become silly in its time-reckoning."

It is thus clear that there is only one period, namely, that following on harvest-time, which is really of general interest, though the few subsequent months are still of some importance. The further down the list the less important become the moon-names. This is completely borne out by native usage. The moon *milamala* is known to all, the names of moons 1 and 2 to most adults. Most mature men can count, often with mistakes in order and omissions, as far as month number 8 and sometimes 10: a few men specially versed in folk-lore can enumerate correctly twelve months.

There is, however, one feature which is of importance for the correct understanding of this state of things. Apart from the practical value of the calendar, it is used in order to supply the framework of a narrative account of the year. Whenever one of the old men is asked about the moons he does not give a sober account, but he will proceed at once to recite a story in which he gives the successive names in a more or less detailed and flowery description of what takes place in each. An intelligent old native will make it clear that not everyone knows the names of the moons, and that only those having to do with gardens and knowing how the year runs are acquainted with them. He will then tell you how there are five moons which are unripe or green (*geguda*) and five which are ripe (*matuwo*). He will tell how in moon 1 they begin to cut the bush and then to burn it after the hot sun has dried the timber: how they then rest and prepare for the harvest activities. He next describes the festivities and how they culminate at the full moon. If he has imagination and interest in customs he will lose himself in details, and will probably proceed at any point to give an account of the customs and tribal life of the period. If kept to the point of time-sequence he will go on with a description of garden work, which certainly constitutes the backbone of native chronology. He will give an account of the original ceremonies of first planting, and will sketch the practical activities and then proceed with the ritual of setting up the vine supports, and of the beginning of weeding. He might dwell on the nature of unripe moons, how at that time the plants grow, the sap enters the yam and enlarges the tuber roots, and rises up in the vines. As can be seen by the table, in the third moon the natives plant the tubers, they grow in the fourth moon, and in the fifth they

have to place supports (*kavatam*) round which the vines will twine. Side by side with these references to gardens there is another aspect of the matter, in which native interest is strong. While one informant, who is, perhaps, a garden magician, will emphasize the growth of the gardens, the next will be more interested in the supply of food in the village.

The first favourite moons are from 1 to 4, which are called months of plenty (*malia*). In these the yam-houses are filled to overflowing and a native of high rank will tell of the beautiful decorations on his own stores and of the amount he receives yearly. The food supply continues to accumulate from months 1 to 4. During moon 2 the lavish display of food to impress visitors and gladden the returned spirits are described in glowing terms. But from then on the native proceeds in a minor key. By the end of the fourth month the food in the storehouses is practically exhausted. Only chiefs still have plenty to eat. The new food is not ready and the period of hunger (*molu*) begins. The fifth is a bad moon, the first of the green ones and perhaps the worst of the hunger months. The natives have to go to the bush to search for wild vegetable food, nuts and fruit, and, at worst, wild roots. This lasts from the fifth to the ninth moon, and the natives will often divide the year into five moons of plenty (1 to 4 and 12), and into five moons of scarcity (5 to 9), and say there are two intermediate moons (10 and 11), which are neither one nor the other. Real hunger, however, does not last after the seventh moon, for at that time the ripe moon begins—sometimes even earlier.

The division into ripe and unripe moons has not so much reference to food as to the process of growth of plants. The unripe time represents the period when the vine sprouts and climbs, the leaves develop and the young tubers grow. As the rain diminishes and the wind and the sun grow stronger, the leaves become yellow and parched, the roots break out into tubers and these begin to mature: these are the *matuwo* months.

The only food eaten after the hunger months comes from the earlier gardens. At first there is so little of it that only children are fed, but from the ninth moon all people have enough. At the ninth month the main gardens begin to be harvested, but food taken out is ceremonially stored, to be presented to chiefs and certain relatives to whom it is due by right.

I have given here only an abridged story of the moons. Informants will often digress, tell of particular historical events, of great hunger or record harvests. But it is always garden food, the contrast between plenty and hunger, the processes of growth and maturing, which occupy their minds. The first five moons are thought of in terms of green process and growth, the subsequent five by development of tubers and the activity of harvest. It is very clear that in all these divisions there are certain moons which are of much smaller importance than the rest. The native telling the story breaks off after the *utokaka* (tenth). The native who distinguishes between the ripe and unripe, the lean and fat, leaves two moons outside, and the

time after the cycle of the gardens is really the finished time in which harvesting goes on without much variety or interruption, the time when there is never hunger but when plenty cannot be used for festivities or ceremonial purposes. This period of time is uninteresting to the native and generally remains nameless.

I have spoken about the twofold division into two groups. As a rule it comprises five moons each with two remaining outside, very rarely will the year be divided into two groups of six moons (*see* table, p. 211). The divisions into ripe and unripe, into plenty and scarcity, do not coincide. The name of moon 13 seems to exist, and I have received words "*kuluwalasi*" and "*obwatayayo*," and in another district the words "*gaygila*" and "*katubugibogi*." It might be that the name of No. 13 given to me by several of my informants independently was reached merely by the accident that several moons seem to have different names in different districts, but it is significant that the first ten names are identical everywhere and easily obtained, while the remaining odd moons, for which sometimes one to three names are obtained, always fall outside the scheme division of two groups of five.

I should like to add that moon 12 is less frequently omitted and better known than 11; as it precedes 1 and 2 it receives some of their importance.

The relevant point of the scheme is that the natives name and recognize the moons of either groups of five or six, for they are really interested in them. This interest is not a direct calendar interest, which might have led to a more systematic treatment. The whole scheme is not a division of the year into a number of moons: rather a method of calculating moons, especially full moons, standing for important tribal movements, which cover interesting and dramatic times of the year. And as the year—that period of garden cultivation and other important tribal events—interests them first with regard to gardens and supply of food, so moons which are relevant in these respects are named and known by name and are divided into a scheme of growth represented by plenty and scarcity. The remaining moons are simply dropped out of the main interest.

The year is a period of ten or twelve moons, not because the natives could not count correctly how many moons there are in a year, not because they could not find out that thirteen is nearer the truth than twelve, but because the number ten or twelve corresponds more exactly to their practical and pragmatic interests. The tail end of the year, the uneventful level time after the harvest has started and before the festivities begin, remains vague to such an extent that moon 13 is entirely dropped out, even in esoteric accounts.

A PRELIMINARY REPORT ON THE STONE HUTS OF VECHTKOP.

[With Plate V, and Appendix on the Skeletal Material by Professor Raymond A. Dart, M.Sc., M.B.]

By C. van Riet Lowe, B.Sc., A.M.I.C.E.

Introduction.

General.

Scattered throughout the northern and north-eastern districts of the Orange Free State are remains of extensive prehistoric human habitations and settlements that embody peculiar and rare characteristics. For many years these ruins have excited popular imagination and curiosity, and, inevitably, numerous theories to account for their origin have been formulated: the most prevalent and popular of which attributes the design, construction, and occupation of these settlements to the aboriginal Bush folk: but how erroneous this is will presently be shown.

It was not until recently that I was able, largely by chance, satisfactorily to elucidate the mystery, and as no detailed and scientific record of these huts has yet appeared in print, I feel that a brief statement now will not be out of place.

Site.

The best preserved and most well-known settlement is on the farm Vechtkop, situated some fifteen miles south of Heilbron. The most outstanding feature and distinguishing landmark of this farm is a prominent, lozenge-shaped, flat-topped ridge which rises a hundred feet and more above the surrounding plain, and it is along the summit of this ridge or kop that the remains of an extensive, though utterly deserted and sadly ruined, settlement exist. The entire area, covering many acres in extent, is dotted with stone bee-hive huts and open kraals, the former occasionally isolated, but the latter always in association with other kraals, huts, or both, all clustered round an inner-court or enclosure, so that an individual ensemble represents, as it were, a miniature native "stad" or village, dozens of which combine to form the entire settlement. The elevated and thus easily defended site is typical of all settlements in this area.

Many huts and kraals have been demolished, and the stones removed for the construction of more modern and spacious enclosures for present-day stock needs, but what remains here is sufficient to enable us to reconstruct and repopulate the

settlement. *En passant*, it is interesting to note that Government action is now being taken to preserve what is left.

At the foot of Vechtkop is the well-known Burger School, principalled by Mr. Graphorn, and it is to his guidance that I am indebted for my first introduction to, and preliminary examination of, the settlement. For some years past he has taken a keen interest in the ruins, and has, from time to time, excavated in and among the huts, kraals and kitchen-middens, and but for skeletal remains, coarse pottery, large mullers and querns, a few stone crucibles, and a single iron spear-head (considerably corroded), he has found nothing of outstanding interest or helpfulness. With him I made a careful examination of the entire area and its surroundings, and found neither evidence nor indication of the Stone Age. One other investigator, Mr. Lemmer also recovered from one of the middens a much-corroded iron spear-head.

DETAILS.

In describing the settlement in more detail, it is my intention to deal separately with each feature, and I have selected to start with :—

(1) THE HUTS.

Fig. 1 shows a characteristic bee-hive hut. This is not a reconstruction, but a selected specimen. The stones are, with very rare exceptions, undressed doleritic boulders collected from the crest of the ridge. These boulders vary in size from a large pillar (weight about 500 lbs.) to a cricket-ball. No stone was "worked," and there are no indications that either clay, dagga, or mortar was used. The stones were merely stacked one above the other in uncoursed, rough-rubble fashion, each stone slightly cantilevered over the stone below until the whole reached the required hemispherical or bee-hive shape. In one direction the stones of the roof are invariably specially selected long and slender slabs, as shown in Sec. A–A, Fig. 1. The interstices between the larger stones of the walls contain no evidence of "fill."

The floor of a hut is co-planar with the outer natural ground level, and the average *internal* dimensions are : (*a*) diameter, 5 ft. : (*b*) height (centre of floor to roof), 4 ft.

At the base the thickness of the walls approximates to 2 ft., but this gets slenderer as the wall rises, until at the roof it averages, perhaps, only 12 ins.

The interstices between the larger stones of the roof are filled with smaller stones and pebbles, until the whole forms a compact mass sufficiently stable to bear the weight of a man comfortably.

Entrances average about 18 ins. wide and 16 ins. high, so that it is impossible to crawl in in an ordinary fashion ; one must get down on one's elbows and "slide" in. The door-lintel is among the largest stones in the structure ; individual specimens weigh perhaps a quarter of a ton. There are no key stones and no other designed

openings. The photographic illustrations (Pl. V) give one, perhaps, a better idea of the general size and shape.

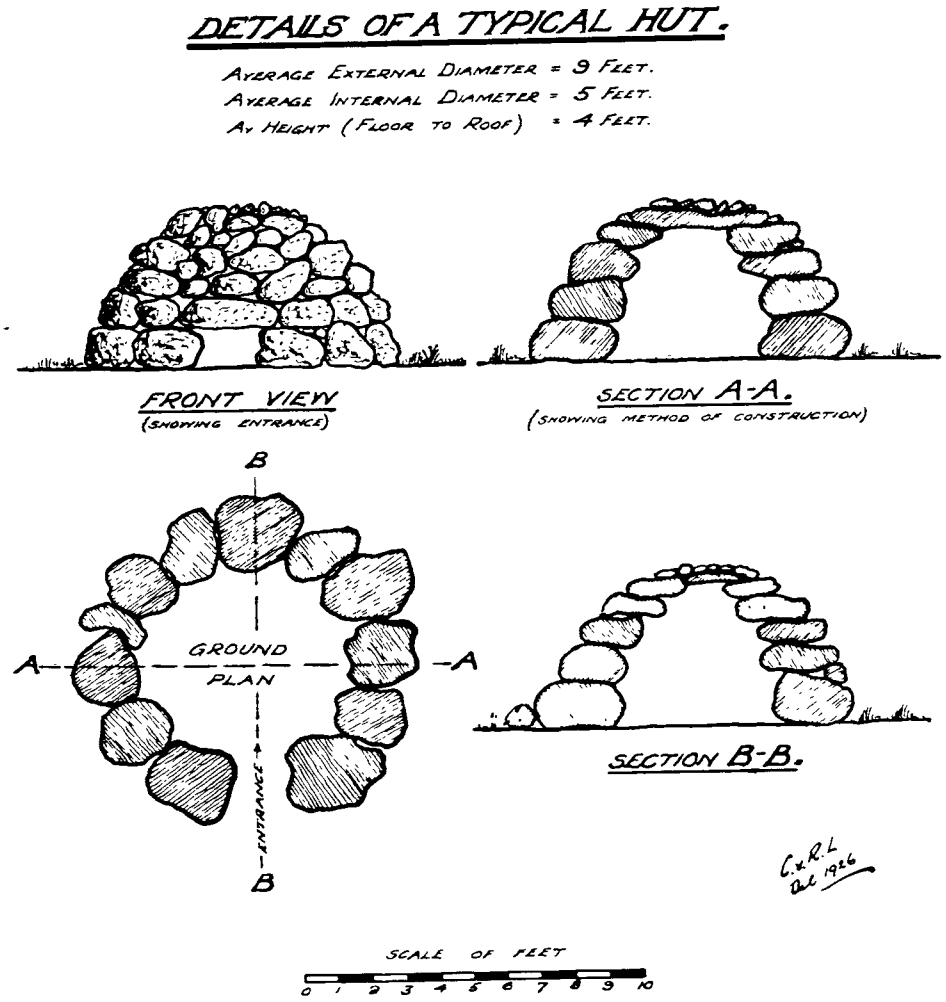


FIG. 1.

(2) A "STAD."

Fig. 2 shows a ground-plan of a typical "stad." It is noticeable that both kraals and huts are circular, the former being uncovered. Kraal wall averages about 20 ins. in thickness and seldom exceed 4 ft. in height. The construction is similar to that of the huts, and a noteworthy feature is that, whereas hut-entrances are almost invariably from the outside, kraal-entrances are always from the inside. The latter are narrow, and the sides are worn smooth by the in-and-out passage of animals, both large and small, thus strengthening the deduction that the occupants were a

herding people. There are no signs of sunken silos for grain in these kraals, the internal diameter of which fluctuates about 20 ft.

All "stads" are not so closely clustered as that sketched in Fig. 2. In the bottom right-hand corner, for example, one might omit the two huts and join the

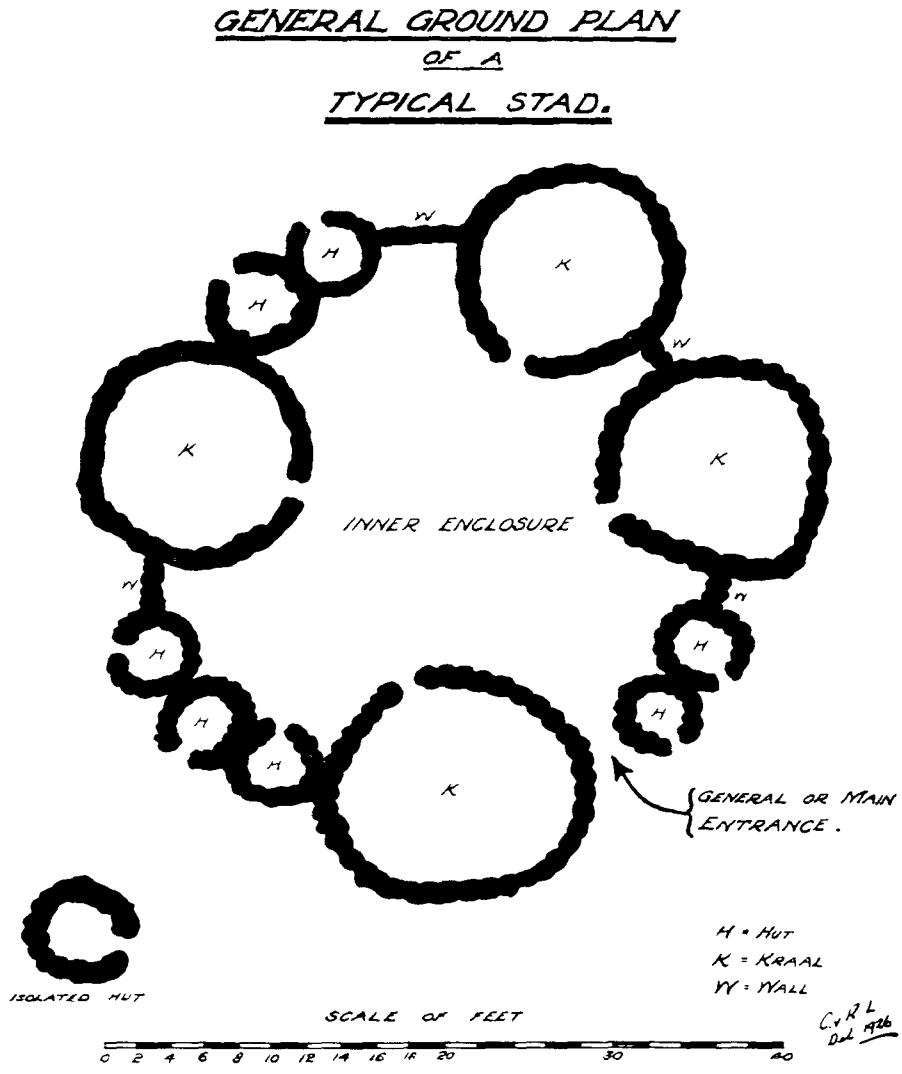


FIG. 2

kraals by a wall, thus enclosing the inner-court and maintaining but a simple general or main entrance.

Isolated huts imply a custom found among the Bantu, for these people frequently erected separate huts for unmarried men of marriageable age, and the fact of such a hut not being a regular occurrence also points to this, for not every family had a son of, say, from fifteen to thirty-five years old.

(3) The Middens.

A marked feature of the settlement is the abundance of ash- and general refuse-heaps in the form of kitchen-middens in the immediate vicinity of each "stad." In some cases a midden contains approximately 6,000 cu. ft. of ash and general refuse, thus indicative of an occupation of, say, thirty-three years, a figure arrived at by allowing from each "stad" ½ cu. ft. of ash to the midden per day, which, I consider, makes reasonable allowance for losses, first by wind, and later by wind, rain, and ultimate compression.

In these kitchen-middens one finds an abundance of potsherds, both decorated and plain, grinding- and honing-stones, occasionally considerably corroded metal spear- and assegai-heads, stone crucibles, fragments of clay- and stone-pipes, bone-points or awls, and skeletal remains.

(4) Description of Objects.

A. *Pottery.*—All pottery is hand-made, well-baked, of comparatively regular contours, large, and characteristically Bantu. Fig. 3 shows three typical specimens. The slightly rounded and irregular bottoms preclude the possibility of these pots standing without slight wobbling.

The mass of sherds examined is plain, and, when ornamented, the decorative patterns take the form of simple geometric designs, mainly herring-bone, chevron, and plain vertical stippled lines, all the patterns being impressed in a series of dots made during the preliminary and unbaked stage, as shown on C, Fig. 3.

No eared pots have so far been found; only a fragment of what might have been a stumpy leg. All the features associated with these pots are essentially primitive.

B. *Grind-Stones or Hand-Mills.*—These are made either of sandstone from the lower slopes of the hill, or of fragmentary slabs of ironstone from the doleritic sill that covers the hill. The under or grind-stones are invariably elliptical, and average about 18 ins. along the major axis, 12 ins. along the minor, and about 4 ins. in thickness. The upper or grinding-stones are also elliptical, and average 6 ins. long, 3 ins. wide, and about 2 ins. in thickness. Examples in sandstone are shown on the right of the native on one of the photographic illustrations (Pl. V, Fig. 3).

C. *Spear- and Assegai-Points.*—Fig. 4 shows a small collection of these metal points. They are of iron extracted from ores in the neighbourhood. The two centre forms are of commonest occurrence, and may be regarded as plain assegai-points. The two outer arrow-shaped specimens are of an unusual and rare form. Occasionally the "shafts" of these are barbed and the workmanship skilful.

D. *Stone Crucibles.*—These are cylindrical cup-like forms in sandstone that, very obviously, were subjected to intense heat. In Fig. 5, I have sketched the cross-sectional profile of a typical specimen, and have shown (1) in stippled outline the

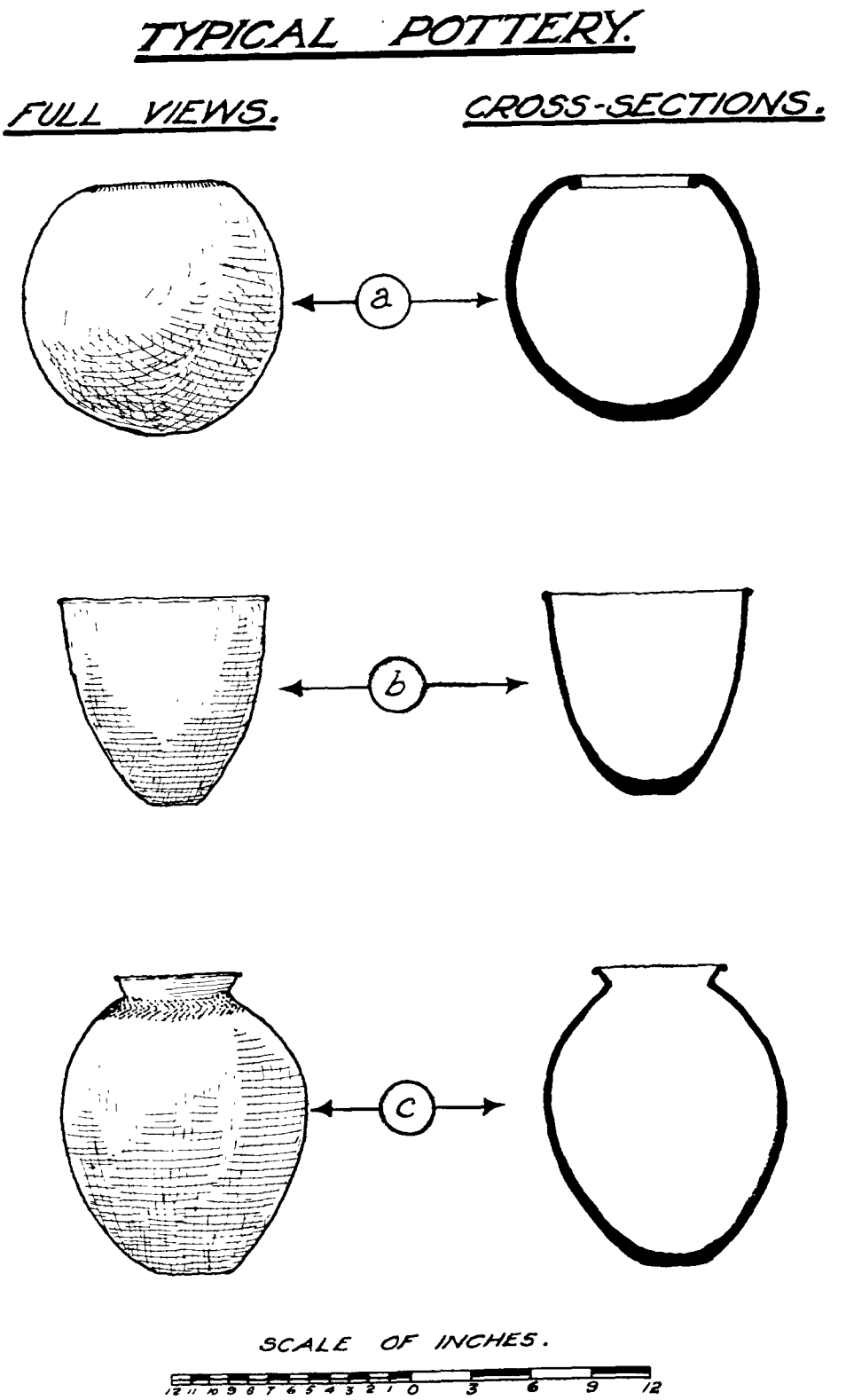

TYPICAL POTTERY.
FULL VIEWS.
CROSS-SECTIONS.
a
b
c
SCALE OF INCHES.
12 11 10 9 8 7 6 5 4 3 2 1 0 3 6 9 12

FIG. 3.

original profile (based on fragments of unused specimens), and (2) in full lines the present profile. The alteration in shape is due to the intense vitrification of the actual crucible contents, *i.e.* the coarse quartzitic sandstone of which the crucible is made, during its continued subjection to great heat.

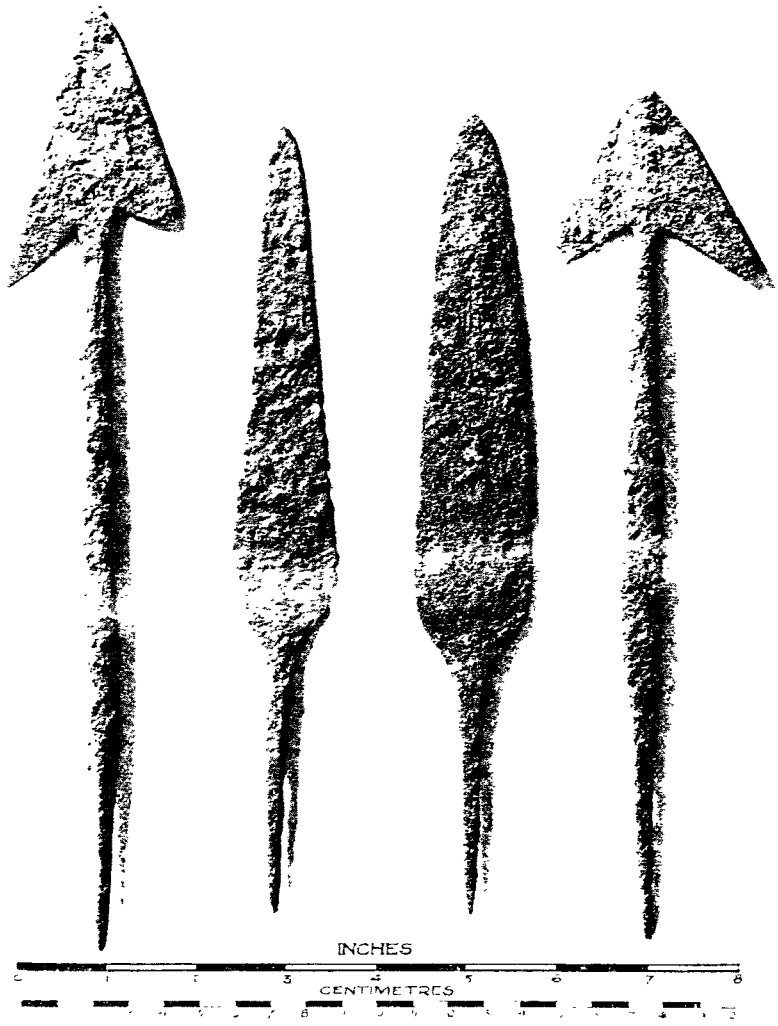


FIG. 4.—IRON SPEAR-HEADS.

The interiors of all crucibles so far found, nine complete specimens, are clean exposed sandstone and not vitrified, while the exteriors are covered with a glassy, nodular, and brightly coloured slag, the predominant shades of which are purplish-browns, reds, yellows, and an occasional spot of green. Experts have failed to discover the exact use of these crucibles.

They are rather small for smelting iron, as only a mere button of metal would be obtained from each smelting, and probably twenty to thirty smeltings would have to be made before sufficient metal could be extracted for a single assegai-point. No traces, however, of either base or noble metals have been found. The green coloration suggests copper, but nothing definite is yet known. It has been suggested that the natives set out to make glass, but I doubt this. They might even have been used for drugs, which is also very doubtful. Personally I am inclined to think that the main,

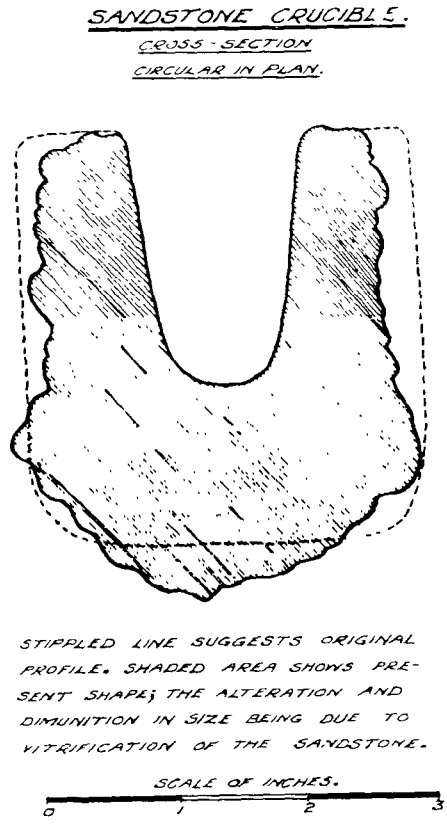


FIG. 5.

if not the sole, purpose of these crucibles was for the extraction of iron. No doubt the process would be slow, but all primitive races had to be patient in the preparation of their tools and weapons, and probably in this case the women were made to do the work.

E. *Clay- and Stone-Pipes.*—Only two fragments have been recovered: one of stone from Vechtkop, and one of baked clay from a neighbouring site. Fig. 6 shows three views of the clay fragment. It would appear as though this pipe once formed part of a blast furnace. The nozzle is clearly shown on both fragments. The specimen

in the illustration here has a highly ornamented exterior, the ornamental lines being solid, raised half-cylinders. The stone-pipe from Vechtkop has a plain exterior.

F. *Bone-Points.*—One fragment only has so far been found. The butt is about ¼ in. in diameter, and it gradually tapers to a fine, sharp point, the whole being straight and about 4 ins. long.

G. *Honing-Stones.*—These are irregularly shaped slabs of dolerite, either fixed or movable, on which spear- and assegai-points were shaped and sharpened. Most frequently the surface resorted to is merely flat and smooth, but occasionally long, deep grooves were formed.

It is regrettable that so little is known about the objects of cult, but the inaccessibility of the site, and the expense of getting there, have precluded the possibility of

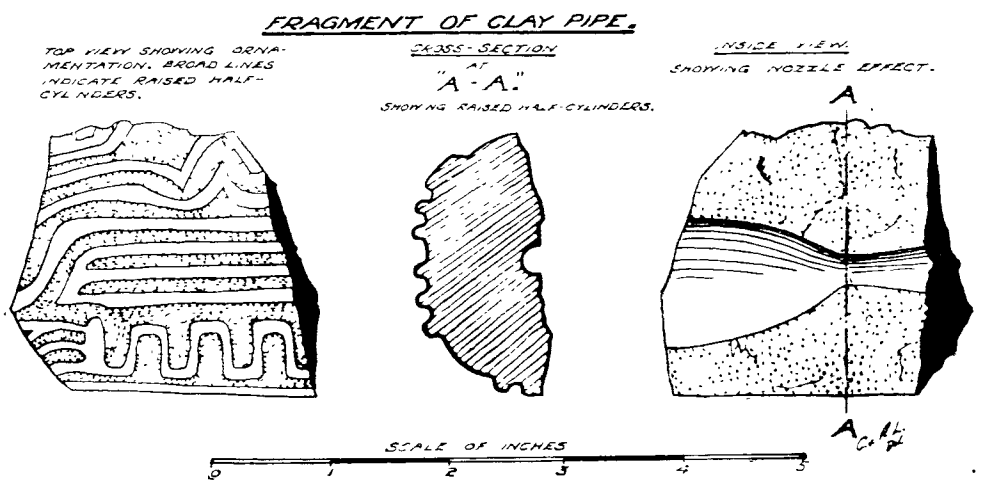


FIG. 6.

a more than superficial examination. It is hoped, however, that some day an expedition will be organized, and that a more thorough examination will then be made. Whether or not we shall find out more than has already been learnt is, however, a moot point. The destruction of these settlements has been disastrous.

(5) Burial Sites and Customs.

Each midden appears to have been a recognized burial-ground, for several exhumations of skeletal remains have been made by Messrs. Graphorn, Lemmer, and myself. The form of interment makes it obvious that all burials were ceremonious and mystical, for skeletons are found arranged in sitting or fœtal positions facing east, in shallow circular graves, over each of which two or more flat stones were placed.

Personal possessions were frequently interred with the dead, and in one instance an earthern pot was found (immediately in front of a skeleton) which contained the

remains of a newly born infant. Perhaps the mother died in giving birth to her child and it was buried with her, or perhaps it was a destroyed twin. Among the Makarange of Rhodesia to-day this practice of destroying a twin is still in vogue, and during last year, while I was investigating Bushman caves and native settlements in the Matopos, I found, in a midden at the base of a rock-shelter, a child buried in a pot in precisely the same fashion as that described above. That this practice still obtains among other southern Bantu peoples is also a well-known fact.

Human skeletal remains were submitted to Professor Raymond Dart, and, while his examination showed these to be mainly Bantu, yet he found there lay also within these bones traces of Bushman admixture. (*See* appended Report, p. 230.)

Owing to transport difficulties from the site, it has not been possible to get more than a single individual collection of skeletal remains to Professor Dart, but as we are able to exhume and get more to Johannesburg, I expect, among these remains, to find three types:—(i) pure Bantu, (ii) pure Bush, and (iii) a Bantu-Bushman admixture. As, however, the Bush folk were never properly interred, it is just possible that pure Bush remains will not be found.

(6) THE BUILDERS.

Archæological research suggests that these huts, so rare (almost unique) in structure and size, were occupied by men of average height who worked in metal, clay, and wood: by men who herded cattle, and probably sheep, and cultivated cereals in comparatively recent years. Tradition suggests occupation just over a century ago, and that the occupants were exterminated by Moselekatsi and his hordes of remorseless Abaku-Zulu or Matabili just prior to his defeat by the Voortrekkers, or Dutch pioneers, fleeing from British rule at this very spot just over a hundred years ago. Others refer to them as "Bushman huts," due most probably to their diminutiveness: but this is unwarranted, and the tradition is without acceptable foundation.

PRE-HISTORY.

Prior to the earliest Bantu invasion across the Vaal river, the northern boundary of the Orange Free State, the aboriginal Bushman, wild, nomadic and homeless, held supreme sway. In his essentials a hunter of the Upper Palæolithic phase, he possessed neither regular habits nor fixed homes. He kept neither cattle nor sheep, did not cultivate cereals, and eked out a miserable existence on the fruits of the chase. He manufactured his weapons of stone and bone, and took shelter in any natural crevice or cave. His culture—both lithic and artistic—teems with Capsian affinities, and in this state he was for untold centuries the undisputed possessor of this territory. It was not until about the dawn of the eighteenth century that he was disturbed by the first Bantu invaders from the north and north-west. These earliest newcomers were the ancient Leghoya or Bataung, sometimes referred to as

the "Bechuana-Pioneers." They were a pastoral people, and speedily settled in this newly discovered territory, where for their fat-tailed sheep and stumpy cattle they found good pasturage. They cultivated Kaffir-corn or "mabele," and ere long assumed unquestioned sway over the less-advanced Bush folk, with whom they at first fraternized and later intermarried, thus, in time, to give rise to a bastard tribe known as the "Bechuana-Bushman." These Leghoya lived in houses of circular form, but Stow's description of their homes in his *Native Races of South Africa* does not include such structures as we find here. According to him, the roofs were pointed and thatched, and nowhere have I found a description of such huts as we have here. This local form is presumably a variant of the general type.

For about a century life wore on comparatively smoothly for these Bush and Bantu folk, and it was not until the dawn of the nineteenth century that the warlike Mantateesi or Bathlokua—a composite Bantu horde—appeared on the scene from the north and north-east, and set about exterminating the Leghoya and their allied people: the Bechuana-Bushmen and Bushmen. A fierce and grim struggle was in progress when, soon after from the east, Moselekatsi and his Matabili appeared and promptly set about exterminating all who stood in his path. A period of cruel bloodshed and infernal carnage ensued, until, in about 1830, the Matabili were successful either in subjecting entirely or in exterminating the earlier settlers, and themselves partially occupied the area under review.

History.

War was still in the air when, from the south, came the first indomitable European pioneers, the Voortrekkers or emigrant Boers, who, in turn, met and defeated the Matabili at the historic Battle of Vechtkop in 1836, and so laid the foundations of the present European settlement. Sarel Celliers and Hendrik Potgieter were the leaders of this trek, and Paul Kruger (afterwards to become famous as the President of the South African Republic), then a lad of some eleven summers, also took part in the fight.

This settlement, and others in the immediate neighbourhood, were then in ruins and utterly deserted, so that, apart from indefinite and often misleading tradition, all we can say with certainty, from direct observation and record, is that they were pre-Matabili.

Conclusion.

Deductions from archæological evidence led me to attribute to the Leghoya the design and construction of these huts, the small size of which was due, perhaps, partially to Bushman influences, but still more, and perhaps wholly, I imagine, to the object of simplifying the erection of the domed roof, the design having been resorted to as the best form of protection against the wild and ferocious animals that roamed this area in such vast numbers. There is no doubt that great skill was required in the shaping

of the roof. Further, on the assumption that the Vechtkop settlement was destroyed and deserted in, say, 1820, and that the growth of a midden commenced with the foundation of a "stad." I came to the conclusion, as outlined above, that the settlement was first established about 1787, *i.e.* before even the Mantatees had appeared on the scene. My conclusion was strengthened by Professor Dart's report on the skeletal remains, for the only Bantu people who were ever known to maternize with the Bush folk were the Leghoya.

Recently it was my good fortune to meet a direct descendant of the Leghoya, a man who was proud of his cannibal grandfather! This Bantu patriarch, perhaps eighty years old, told me, *inter alia*, that his great-grandfather was a Leghoya or Batoung, and had actually lived in one of the settlements adjacent to Vechtkop. His account of the origin of the huts, and of the people who designed and built them, corroborated in detail my deductions from actual exploration and research.

Now, on the assumption that my informant was born when his father was twenty-five, and that his father was born when *his* father, *i.e.* the grandfather, was also twenty-five, we find that the grandfather first emerged from one of these huts in 1797. The great-grandfather had then most probably lived here for some time, so that my independent deduction that this particular settlement was founded in about 1787 seems very near the truth. In any case, this disinterested, though interesting, evidence lends considerable support to my deductions, and I feel that we may now reasonably and legitimately conclude that the ancient Leghoya—the first known Bantu arrivals in the Northern Orange Free State—were the builders of these most rare and Eskimo-like huts. They brought with them one of the highest forms of Bantu civilization known in the south, and set the scene for the passing of the Stone Age in the Free State.

In all I have discovered 14 different settlements in this province, and have had two reported from the Southern Transvaal; but, up to the present, no similar remains have been recorded from any other areas in Southern Africa. During a recent tour through Rhodesia I made a special point of discussing this subject with Dr. Arnold, Director of the Rhodesian Museum, and Mr. Neville Jones, author of *The Stone Age in Rhodesia*, but they neither know, nor have heard of, anything similar in that territory. It is probable, however, that time may reveal their occurrence in Bechuanaland, for up to the present no appreciable amount of research has been carried out there.

The accompanying map (Fig. 7) shows the position of Vechtkop, the present known distribution of these huts, and the main lines of Bantu invasions into the area affected.

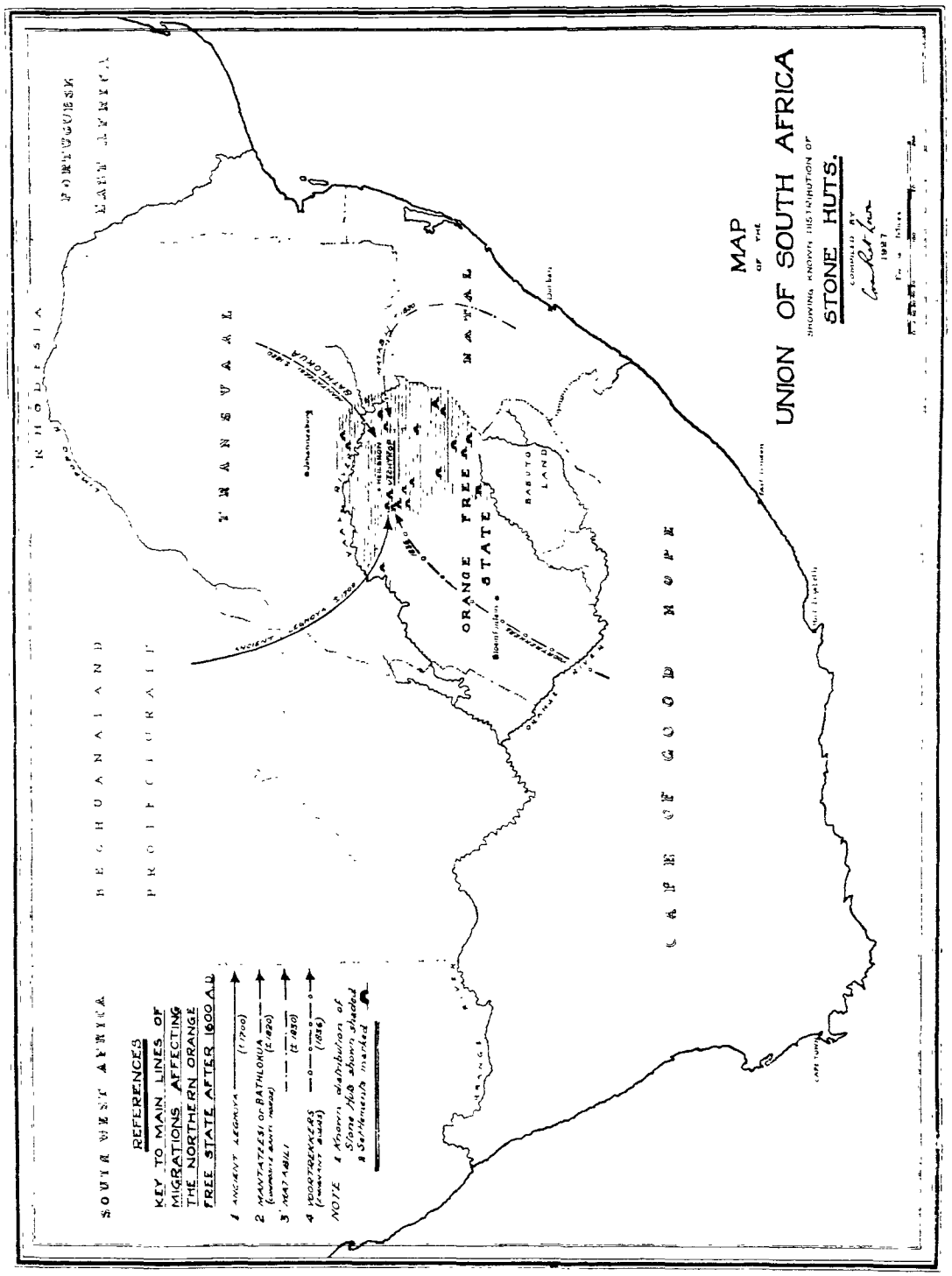

MAP
OF THE
UNION OF SOUTH AFRICA
SHOWING KNOWN DISTRIBUTION OF
STONE HUTS.
SOUTH WEST AFRICA
BECHUANALAND
PROTECTORATE
RHODESIA
PORTUGUESE
EAST AFRICA
TRANSVAAL
ORANGE FREE STATE
NATAL
CAPE OF GOOD HOPE
BASUTO LAND
REFERENCES
KEY TO MAIN LINES OF MIGRATIONS AFFECTING THE NORTHERN ORANGE FREE STATE AFTER 1600 A.D.
1 ANCIENT MIGRATION (1700)
2 MANTATEESI OR BATHLOKWA (c. 1820)
3 MATABELE (c. 1830)
4 VOORTREKKERS (1836)
NOTE A known distribution of Stone Huts shown shaded & Settlements marked

FIG. 7.

APPENDIX.

REPORT UPON THE VECHTKOP SKELETAL MATERIAL.

By RAYMOND A. DART, Professor of Anatomy, University of the Witwatersrand, Johannesburg.

MATERIAL.

A practically complete upper jaw.

A mandible with broken rami, and with condylar and coronoid processes missing.

Two femora.

Two tibiæ.

All the bones obviously belong to one and the same person, as is indicated not only by the statements of the finder, but also by the homogeneity of the bones in preservation, appearance, and type.

LOCALITY OF THE FIND.

The bones were excavated and forwarded to me by Mr. H. Graphorn, of Heilbron, O.F.S. The material was recovered from an ash-heap, together with a clay pot, in close proximity to the stone huts of Vechtkop described by C. van Riet Lowe. The question for solution was to which African race the bones belonged.

MANDIBLE.

The condyloid and coronoid processes are missing on both sides, and the posterior borders of the ascending rami are broken across a little above the inferior dental foramina. One's first impression from a lateral view of the mandible is that it belongs to the Bush race, but this view reveals two features which gainsay so definite a statement. First, there is a well-formed chin: and, secondly, the alveolar margin and the incisor teeth are directed obliquely forwards. These characters of a pronounced chin, and of alveolar prognathism are not usually found in pure Bush mandibles, but are more typical of the Bantu.

The broad square ascending ramus, and the other short horizontal ramus, are the chief points of resemblance with Bush mandibles.

Measurements:—

——	Vechtkop.	Type Bush.	Type Bantu.
	mm.	mm.	mm.
Minimum breadth of ramus ..	37	36	35
Mandibular length	73	76	79

The symphyseal region shows the posterior surface facing upwards, and on it well-defined genial tubercles. A posterior symphyseal surface directed upwards is found in both Bantu and Bush mandibles (Miss Salmons, 1925), but in a large proportion of Bush mandibles the genial tubercles are replaced by genial fossæ.

The following table gives the "indice de robusticite" of the mandible in comparison with the Bush and Bantu mandibles :—

	"Indice de robusticite."
Vechtkop	36·1
Bush..	63·4 (Miss Salmons)
Bantu	39·0 (..)

The Vechtkop index shows a wide departure from the Bush figure.

A fairly sharp inferior margin and digastric fossæ directed posteriorly are again features in common with the Bantu rather than the Bush. The molar region, however, approaches the Bush type. There is a distinct bulging of the body of the mandible inwards in this region, and the sharp anterior margin of the ramus is continued down on to the body of the mandible (Miss Salmons, 1925). An everted angle is present, and though occasionally found in the Bantu, is more usually seen in Bush mandibles.

The teeth are all erupted and have no distinguishing features, but show considerable attrition.

The Maxilla.

When the maxilla is adapted to the mandible, the cutting edge of both sets meet, in striking contrast to the arrangement in the Bantu and European jaws, where the upper teeth customarily project over the lower. As in the lower jaw, there is a slight degree of alveolar prognathism, but actually the incisor teeth in this jaw are directed directly downwards. The premaxillar portion is rather flattened, and there is a well-developed nasal spine. The incisive fossæ are deep.

The maxillo-alveolar and the palatal indices were secured, and are here compared with typical Bush and Bantu indices of the skulls in the Department :—

——	Vechtkop.	Bush.	Bantu.
Maxillo-alveolar index	122	115·5	128
Palatal index	77·8	80	86

The maxillo-alveolar index in all three is brachyuranic, but the palatal indices of both the Vechtkop and the Bush are leptostaphyline, while the Bantu is brachystaphyline.

The palate is unusually deep. The teeth are uncramped, and the dental arch is not as divergent as in a typical Bantu palate.

FEMORA.

Both are well preserved, and are both smaller and more slender than Bantu bones. They look like the femora of a Bushman. In two very important features are these bones definitely different from, and more primitive than, Bantu femora.

The development of the linea-aspera is so great that the bones provide a pilastric index of 115, and this figure approaches more the figure of the Bush index (121·2) than that of the Negro (105·8) (Drennan, 1925). Secondly, the degree of flatness below the lesser trochanter is so marked that these femora give the striking platymeric index of 75. This index places these bones in the platymeric class, to which the Bushmen belong, while Bantu femora are eurymeric. An excessive development of the gluteal tuberosity to form a third trochanter is a common occurrence in the lower races, and is another primitive feature noted in these femora from Vechtkop.

TIBIÆ.

Both tibiæ are preserved. Their general appearance shows a lighter build than that typical of Bantu bones.

The platycnemic index is 56·5, and is an indication of the extreme medio-lateral flattening at the level of the tuberosities. Platycnemy is practically always a constant feature of the tibiæ of primitive peoples, and its presence in these bones proves further the relationship of this material to a primitive, probably Bush, type.

No abnormal curvatures of the shaft are present, and the head is not retroverted. Similarly, there are no obvious departures in the structure of the articular surface from that found in normal European and Bantu tibiæ.

INTERMEMBRAL INDICES.

The tibio-femoral intermembral index is 79·7, and is thus brachycnemic. As primitive races are usually dolichocnemic (Wilder), this is an unexpected index for this individual, showing otherwise so many primitive characters.

By making use of Manouvrier's tables, the height of the living individual based on the lengths of the tibiæ and femora was 5 ft. 4½ ins. This height is below the average height of the Bantu.

CONCLUSIONS.

This material provides the following evidence :—

(1) A prognathic mandible with well-defined chin, but with a Bush-like ramus and molar region.

(2) A maxilla similar to the Bush upper jaw in its adaption to the lower jaw and its leptostaphyline palatal index.



FIG 1.—REMAINS OF A VILLAGE OR "STAD."



FIG 2.—RUINED HUT, SHOWING METHOD OF CANTILEVERING COURSES.



FIG. 3.—ISOLATED HUT, SHOWING ENTRANCE, AND TWO GRIND-STONES ON RIGHT

THE STONE HUTS OF VECHTKOP.

(3) Femora having distinct primitive characteristics, *e.g.* pilastry, platycnemy, and third trochanter, and in their lightness of structure akin to the Bush type rather than to the Bantu.

(4) Tibiæ showing also a primitive platycnemy.

(5) A living height of 5 ft. 4½ ins., *i.e.* intermediate between the pygmy-like Bushman build and the well-developed Bantu.

It is not possible to draw definite conclusions from this material as to their *tribal* derivation, because, as yet, the various South African tribes have not been standardized anatomically. Consequently, on reporting on the race of this material, little more can at present be said than that it represents an individual neither pure Bush nor pure Bantu, but evidently a hybrid form with primitive Bushman characteristics predominating.

There is nothing here incompatible with—and, on the whole, the evidence strongly supports—the conclusion of Mr. van Riet Lowe, that the bones are to be associated with the Vechtkop bee-hive stone-hut culture, and that the people who were responsible for the culture were a hybrid Bush-Bantu race (*i.e.* much later than the Bushman intrusion into South Africa), such as the Bechuana people undoubtedly are.

In conclusion, I wish to thank Mr. H. S. Gear, B.Sc., for his assistance in taking the measurements on the bones and working out the indices.

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THE CUSTODIAN OF TRADITION.

By Professor J. E. G. de Montmorency.

[*A Lecture delivered at the Royal Anthropological Institute, on Tuesday, February 22nd*, 1927.]

It is, perhaps, a rash thing for a lawyer who is certainly not a trained anthropologist in respect to questions relating to the physical structure of man, and the comparative problems associated with structure, to adumbrate a theory as to the evolution of the human race. Yet the temptation is great. The material with which I work is living tissue, and the fact appeals to a practical lawyer. In dealing with customary law, the researcher touches the personality of man, sees the efforts made by man, conscious or unconscious, to achieve certain results, to find safety by direct efforts or by the putting aside of inherited inhibitions. That seems to me to be the importance of the intensive and comparative study of customary law. Moreover, though it is a special field, it is not a closed field. It is closely interrelated with comparative philology, with the study of the dead *vestigia* of tribal life, with even the anatomical study of the evolution of man, and, indeed, with many other regions of investigation that must affect the whole problem. In the case of Anthropology the region is open to investigation from numerous points of view, and the ultimate truth must satisfy them all.

In what I have to say I am throughout keeping in mind Sir Isaac Newton's doctrine, expressed in the *Principles of Philosophy*, that Nature loves simplicity. In the case of pure physics dealing with inorganic substances, and, in the case of organic substances, the ultimate laws, or processes, that dictate the phenomena, so far as observation has gone, are capable of simple statement, whether in the case of the Newtonian or allied laws, or in the case of the laws of organic development formulated by Mendel. These laws have emerged from what can only be called a welter of phenomena, and, having been enunciated, solve apparently all problems that arise in connection with inorganic or organic matter. The laws are in no sense *a priori*: they are based on observed phenomena. The case of, at any rate, a certain range of human phenomena is far more simple than the multitudinous physical phenomena from which the laws of Newton, or Einstein, or Mendel were derived. Human phenomena within a certain range are certainly complex enough, covering as they do recorded history. Nevertheless Laws of Social Motion should be derivable from such phenomena.

It may seem to be putting the cart before the horse if I say something at once on the doctrine of sovereignty, a subject which is, at the present time,

moving many minds. What is sovereignty? What is its essential nature in a community or nation? Consider that late development in human society, the European feudal state. In the feudal complex which made up the feudal State the king is a mere part of the complex.[1] It was the complex itself that was the ultimate sovereign body, and if any member of the complex proved faithless he could be dealt with, since all parts of the complex, including the king, are subject to the laws or customs that are the essential life of the complex. That appears to be the mediæval feudal outlook on a purely feudal problem. These were the facts as to sovereignty, and we may explain facts in terms of modern juridical thought. The king was subservient to law, and the real sovereignty was in the whole community, and that community had the right to make war upon him if he were faithless to the law of the community.

This being so, we are entitled to search back into the natural history of community life to seek the origin of a state of things which can be expressed in terms of a modern juridical doctrine of sovereignty. This idea of working from an historical basis into the nature of sovereignty was dimly grasped by Sir Robert Filmer in the days of the Commonwealth, when he attempted to deduce the divine right of kings from the structure of the patriarchal family. John Locke, Filmer's opponent, was really working from the same basis when he opposed to the divine right of kings that instinct of self-preservation which, in fact, lies at the basis of the organization of human society, and is the true historical basis of a doctrine of sovereignty. It is only in the last sixty years or so that the doctrines of natural law have been placed upon an historical foundation. Neither Filmer nor Locke had at their hands the material for a theory of natural law which would expose not only the essential features of sovereignty but of structural human society.

But some seventeenth-century thinkers guessed at some aspects of the truth. John Milton wrote: "We are not bound by any statute of preceding parliaments, but by the law of Nature only, which is the only law truly and properly to all mankind fundamental." John Selden approached the truth from another angle. He wrote: "A king is a thing men have made for their own sakes, for quietness' sake," and added that it was for "the Master of the House" to give to kings their privileges. Selden has a way of putting great questions of controversy in a phrase. Who was, who, in the long evolution of human political society, is "The Master of the House"? That is the essence of the whole question of the conception not only of sovereignty but of organized society. In the strict theory of European feudalism the king was not Master of the House, though he was master of many things and many men. He was the subject of a customary system of law. What was true in the elaborate form that feudalism reached in mediæval Europe is true of all forms of customary

[1] Bracton. *See* Pollock and Maitland, *History of English Law*, 1. pp. 182–3.

feudalism—some almost as elaborate as, and certainly more ancient than, that of mediæval Europe—throughout the world; and, if we go behind feudalism in search of an earlier and, perhaps, happier form of society, we find still a customary system of law of which the method of government—that is to say, the executive for the time being—is the servant. Sovereignty resides, in some fashion or another, in the independent group, and it is the business of the investigator to find its residence. Sovereignty is a fact, however it came into being, and the task of all tasks in the history of man is to find the Master of the House and where he dwells.

In my Inaugural Lecture of 1920, as Quain Professor of Comparative Law in the University of London, I ventured to formulate three laws that seem to control all forms of social evolution. I venture here to repeat these suggested fundamental laws, and to illustrate them so far as the purpose of this lecture goes:—

(1) There is a dominant tendency in the individual man to strive so to regulate the group to which he belongs as to afford to the group, and therefore to the individuals forming the group, a maximum of protection from environment.

(2) Within the group the relations of individuals are always tending towards stability of conduct, and the tendency is due to the operation of the principle—*Fides est servanda*: "Faith must be kept."

(3) There is a dominant tendency of a group which has attained consciousness of corporate life to strive so to regulate the sum total of groups to which it belongs as to afford to the aggregate of groups, and therefore to itself, a maximum of protection from environment.

It is necessary to add a lemma to those propositions:—The basis of relationship within and between the groups is mutual effort and support. In no other way could man, singularly deficient of natural physical means of offence and defence, survive. The human child is personally defenceless for a period exceeding two years, even in the hardiest tribes. The conditions determining the form of such mutual effort and support are dependent on the environment of the group, and those conditions form the basis of the law or custom of the group or groups. Obedience to custom is the condition precedent to survival. In the change of environment the law or custom must change to meet the new conditions. If this is not done the new conditions weaken, and probably break up and destroy the group and the individuals composing it. In fact, change of customs to meet a new and changing environment is a familiar feature in the history of customary law. There is a custom to change custom.[1]

Now sovereignty, in the sense of exclusive and undisputed ultimate control over specific regions and persons settled in those regions, is a phenomenon which

[1] As far apart as Australia and mediæval York.

accompanies every form of group or tribal life. It is something from the first wholly different from property. The group or the tribe, or even a group of tribes, have the exclusive right to roam over, to use, to reduce into proprietary possession some extensive but limited and well-defined area, and this exclusive right is accompanied by a rule of law that is universally obeyed. Some instances may be given of this characteristic which seems to be universal and common to the Negritic and to the pale or proto-Hamitic stock. It is true of the Negritic pygmies of the central African forests. These pygmies have no chiefs, but are ruled by a dozen or more elders. It is true of the Negritic tribes of the Malay peninsula, where there are chiefs, of the Andaman islanders belonging to the same fundamental stock. In these islands each community is independent and regulates its own affairs, with occasional relationship with neighbouring groups for feasting and dancing. These larger groups are united into tribes, but there is no organized government other than rule by the elders. If we turn from pseudo-elemental Negritic people to peoples of the same humanistic outlook who have no Negritic intermixture, we find the same phenomena. The Australian tribes have neither chiefs nor priests, but they present certain phenomena that have special relationship to sovereignty, in addition to the control of definite land areas by the process of strict exclusion. Broadly speaking, we may say that in Australia there is tribal occupation, by the process of exclusion, of fixed areas, and that within these areas there is a further division for the exclusive occupation of sub-areas by what I may call sections of the tribe. The Australian evidence is difficult, because the natives are not so elementary as they seem at first sight, and show signs (apart altogether from European interference) of having drifted back to a more elementary form of life in the last hundred years. It is, however, clear that there is elemental sovereignty over carefully selected fixed areas. It is also clear that in association with the sacred churinga or bull-roarer there is something that is heritable from father to son, an incorporeal hereditament. The churinga and the sacred places where those instruments are kept, and the ceremonies which attach to the use of those instruments, are heritable from father to son. A hundred years ago some of these tribes had settlements and huts—communal huts—on the south-east and north-west coasts. If Australian customs are placed under the micro-scope they reveal elementary and embryonic ideas of property, of obligations, and of status.

But here, at any rate, we see tribes which have no chiefs, no priests, but which have a highly developed system of Ancestor worship. The Ancestor worship, it is true, takes a special form in Australia, but Ancestor worship in its simplest form is a fact that cannot be dissociated from the conception of sovereignty. The prevalence of Ancestor worship, of the association of Ancestors with the safety and welfare of the group, or group of groups that

makes up a tribe, is a matter that requires special consideration. The custom that gives form to the necessary mutual effort and support, and thus gives protection to the group from its environment, is the tradition of methods of safety hardened into law. The tradition came from the Ancestors, and by a natural process the respect for the Ancestors who created the tradition, and obedience to the law which sprang from the tradition, involve a sense of obedience to the Ancestors which becomes worship of the Ancestors.

In many cases it involves the identification of the Ancestors with the God or external Force towards which the individuals are feeling out in that looking "before and after" which is distinctive of the human personality. Shakespeare, in his Caliban, son of Sycorax, has depicted a gross elemental creature of the Neanderthal type—

> "This island's mine, by Sycorax my mother,
> Which thou tak'st from me. . . .
>
> I must obey: his art is of such power,
> It would control my dam's god, Setebos,
> And make a vassal of him.
>
> The spirit torments me: O!"

He is looking for gods everywhere. He cries to Stephano, who had declared, "I was the man in the moon when time was"—

> "I have seen thee in her, and I do adore thee:
> My mistress showed me thee, and thy dog, and bush.
>
> . . . pr'ythee be my god."

Sycorax, Setebos, Prospero, Stephano are all mixed up in this effort to feel out for the supernatural forces that give guidance, protection. But the Ancestral forces come first, Sycorax is first.

In this way in all tribes and groups arose a new force of unity in the group or tribal life, since the Ancestors dominate the group and harden it with a sense of corporate life. So far was the conception carried that among the Australian tribes we find the extraordinary conception of the ceaseless rebirth of the Ancestors and the limitation of the number of men by the number of Ancestors. Among all these elemental or apparently elemental peoples the conception of sovereignty over the group, and over the carefully defined area to which the group is restricted and which no other group has the right to enter, is a matter of tradition that has hardened into immutable custom, a custom sanctioned by some form or other of worship for the Ancestors from whom the custom sprang. The preservation of the custom is in the hands of one man, or in the earliest forms a little group of elders, who is or are the Custodian or Custodians of the Tradition. We find this Custodian everywhere. He is not a chief, he is not a priest, in the earlier phases of society,

but he is all-powerful, and it may be said that the earliest conception of sovereignty is something that is associated with him as representing the group or tribe.

It is not suggested that the Custodian of Tradition is the sovereign, though in some cases he is in fact the Master of the House. It is he who defines the limits of sovereignty, who prescribes the rights and duties of the subjects, that is to say, the members of the group, who regulates the relationship of the group to other groups, who changes law or custom if environment demands. He is the executive, the judiciary, the legislature. He has many of the attributes of a sovereign as we understand that term, but he is apparently not conscious of anything of the sort. He probably thinks of himself, if any idea of status arises in his mind, as the incarnation of the group, the link between the group and the Ancestors who made a group possible, and the mediator between man and the divine Gods who, though hidden, are mediable, and who, maybe, are very near to any one of the community.

We find the Custodian of Tradition everywhere and in every phase of customary society, even in the empires that waxed and waned in the old world. We may, perhaps, get a little nearer to the understanding of this universal person if we consider the peoples partly Negritic, partly pure Hamitic, but for the most part a mingled race, that formerly inhabited Easter Island, and some broken fragments of whom still remain. These people were divided into ten groups or clans which were associated with different parts of the island, though the old boundaries in more or less recent times overlapped, and members of one division settled not infrequently among those of another division. There were in nine of the groups no group-restriction on marriage. These ten clans were grouped into two main divisions, corresponding with western and eastern parts of the island, which probably represented two waves of immigrants. Some of the people were pure white, some pure Negritic, but most were mixed, and the admixture may have taken place before the peoples entered the island. There was certainly continual quarrelling, not amounting to war, between the two main divisions. Mrs. Routledge tells us that, except in one clan, the Miru clan, there were no chiefs and no system of government. There were signs of matriarchy as well as patriarchy. All believed in supernatural persons, and a list of ninety such persons were collected by the observers. Their names, varying from group to group, were mumbled before meals with an invitation to partake: these were apparently the Ancestors.

The Miru clan was descended from the white or pale pure Polynesian settlers who dwelt in the western part of the island with two allied clans. The Miru clan held a remarkable position. The members were reputed to have miraculous powers. They were the only group which had what may be termed a head-man or chief, though even that term is misleading. This man was known as the *Ariki*, or sometimes as the Ariki-mau, the great chief, to distinguish him

from the *Ariki-paka*, the other members of the clan. The Miru clan was, so to speak, a clan of chiefs or superior persons, something like Balliol College, Oxford, in the days when Dr. Jowett was the Ariki-mau. The Ariki-mau of Easter Island was a pure white man, and he was obliged by custom to marry into his own clan and to keep the descent pure. The office was hereditary, and the last holder, who died before 1862, could trace back no less than fifty-seven predecessors. He lived alone with his son. No one was allowed to see them eat, and no one but their servants could enter the house. He held office for the whole island, but he was neither a leader in war nor a priest. He is described as the custodian of certain customs and traditions, and he delegated to some Ariki-paka the duty of praying for rain. He could on occasion work spells himself. He had this "sanction" at hand. He attended the inauguration of any new house of importance, and ate the first meal in the house. He was visited one month in the year by all the people on the island. The writing of the script or wooden tablets (which apparently handed down the tradition, and seem to me merely a more elaborate form of the Australian bull-roarer marked with *memoria technica* which records the traditions) was under the control of the Ariki-mau. The Ariki-mau was neither a chieftain nor a priest, but he belonged to, and was the head of, what I may call a Levitical clan—the Semitic clan or tribe that carried the tradition of the Hebrew race—and in the hey-day of his powers exercised delegated sovereignty over the ten clans. His powers no one disputed, though all the clans were in a constant state of petty quarrelling, probably due to the partial elimination of clan boundaries.

I have necessarily chosen stationary peoples, that is to say, peoples living within defined territorial limits, to illustrate the beginnings of the conception of sovereignty and the operation of the powers of the Custodian of Tradition. The phenomena is independent of colour or the intermingling of colour. But the main question is, whether the conclusions are true in the case of dynamic as opposed to static peoples. The static peoples have remained in their static state for many thousands of years, but in Easter Island we have an example of peoples who, having been dynamic, have again become static as the result of an insular situation, and have either reverted to, or have retained the conception of, a Custodian of Tradition. This intermediate case is very important, if we can show that dynamic peoples operating on a great scale have used and retained their Custodian of Tradition. It has to be remembered that the course of great movements of population have tended to present the following phenomena. The wandering or dynamic tribes have found some vast favourable area with apparently unlimited resources for existence. The most diverse peoples have drifted into the favourable area, and have then formed a mingled, but a fixed, stock in the lapse of perhaps two or even three millennia; then the resources have shown signs of exhaustion, and the fixed stock has dispersed.

The most complete modern instance is the Bantu race, which apparently began to disperse from the head-waters of the Nile some two thousand years ago, having in that region become a fixed stock. There are many other instances: one is the pure African specialized Negro stock—that later became one element of the Bantu stock—which suddenly appeared as a fixed stock hammering at the southern gates of Egypt somewhat later than 3000 B.C. We have no news at all of this race in the time of the mighty Zoser, the builder of the Great Pyramid in the year 3200 B.C. At that date the modern negro was unknown in Egypt. Moreover, at that date there were no negroes in Nubia; but by the year 2700 B.C. the negroes had come and wedged themselves between the wild Hamitic tribes and the civilized Hamites or pale people of Egypt. We thus get the spectacle of a new fixed Negritic stock being formed, as it were in secret, in the vast regions South of the Cataracts, while North of the Cataracts another stock, wholly non-Negritic, had formed its own civilization. In the great XIIth dynasty, *circa* 2200 B.C., we seem to see some mingling of these two independent dominant fixed stocks. In both these stocks, formed after endless movements, it is quite easy to show that the Custodian of Tradition played a dominant part. I might refer to the fixing of the stock that filled the Central plains of China, or of the Sumerian stock, probably related to Egypt, that laid the basis of the Babylonian Empires, but I prefer for the purpose of my present argument to deal in some little detail with some aspects of the Aryan stock, with the proto-Aryans, gathered—I assume, though the assumption is not vital to my argument—in the great plains south of the Carpathian region.

Before passing to the considerations that arise from the Aryan dispersal, I must, however, say a few words about the race that poured into America from probably North-East Asia. By whatever way or ways the races of America found their new world, they found it one to range in without opposition. Yet the warrior tribes adopted definite tribal areas, and these areas were reduced into possession more effectively than in the case of more elementary people. In the American case we come into contact with the question of private ownership of land. My own explanation of such ownership is that it originated in *tabu* exercised by the Custodian of Tradition, and that head-men or chiefs developed the conception of property by exclusion while tolerating the usufructual use of portions of the tribal area by members of the tribe, a use that slowly tended to harden into possession, though in many cases the land reverted to the group. The group universally asserted sovereignty, and in Australia and Easter Island we see groups within tribes asserting sovereignty over portions of the entire area which the entire tribe claims as its exclusive possession. No doubt the distinction between ownership and sovereignty becomes fine in some cases, but it is a real distinction, as the granting of land for usufructuary purposes by the chief of the tribe indicates. Sovereignty within sovereignty

is explicable by the swarming off of groups to form new communities that still recognize kinship with the original stock. But in these cases we have neither feudalism, slavery, nor serfdom.

But the American material gives us new features. There are tribal areas involving sovereignty, and there is gentile ownership of land. As Mr. L. H. Morgan says, "property was hereditary in the clan, consequently children took nothing from their father." This is clearly a development, from sovereignty of an area by a group, into possession by internal and lesser kinship groups of specific parts of the area. The interesting part about the gentile, or kinship, or group-ownership in America, is that in the great societies which the Spanish invaders found in existence at the end of the fifteenth century this group-ownership had once again developed into sovereignty while retaining its usufructual importance. The case of the City of Mexico is in point. The tribe at a far earlier date was divided into four kinship groups, and the members of each kinship dwelt under a common roof. For the purposes of food, "gardens" were added to the Common Houses, and in this garden each family in the House had its defined usufructuary interest. The tribe had the territory and exercised sovereignty, but the Houses had the produce. Thus there were originally in the Pueblo or lake-village of Mexico four Houses each occupied by a kinship group, and these became the four quarters of the lake-city as it grew. A head-chief occupied, but did not possess, an official house, while lands were set aside to support the chiefs and their servants. With the growth of the city and the community a special difficulty arose, since there could be no extension of territory on the island for the purposes of maintenance. The so-called "gardens" were not extensive enough. The lands beyond the island were possessed by independent tribes. These could be, and were, conquered, but the tribes could not be incorporated, since the kinships of the conquered tribes could not be fused with any of the kinships of the Mexican tribes. In consequence, Morgan tells us that "Tribute . . . had to furnish the means for their governmental requirements in the matter of food, and the tribute lands had to be distributed and divided, so as to correspond minutely to their House organization." So we get a perpetual rent in the shape of food allotted to each family from specific lands, but the ultimate sovereignty over these new tribal lands was in the Mexican tribe; yet, subject to that sovereignty and the payment of food-rent, the subject-tribe held local sovereignty. Polo de Ondogordo says that exactly the same position was created in Peru. In Mexico the position was extremely complex. The land held by each great House or Calpulli was possessed by the kin in joint-tenure. It could not be alienated or sold, and if the kinship died out it reverted to the group for new distribution. The quarter or group was governed by a Council of Elective Chiefs who appointed

an Elder Brother. He kept a reckoning of the soil of the House, with a record of its members, and of the area assigned to each family, and he kept a note of changes in distribution of land which might be made by him, or by the Council, or by the Gathering of the House. The various lots of the area attached to each Group House were assigned to the married males of the kinship, to be worked by them for the use of their families. The government of the island-city and the dependent lands was vested in a Council of Aztec Chiefs representing the bodies of kindreds. Montezuma was merely a War Chief of the Aztec Confederacy.

These North-American Confederacies deserve the closest study, and illustrate my third law in a striking way. A book might be written on the significance of tribal confederacies from the point of view of that fundamental principle of group-preservation which is the basis of my argument. The Iroquois federation is a late stage, the Aztec still later, and I think we can trace in the Pacific the *disjecta membra* of such another confederation which perhaps attained the dimensions of an empire. But, however that may be, Montezuma was not a sovereign. The sovereign authority lay in the Council of Chiefs who represented the entire tribe. No doubt the War Chief, as a member of the Council, had in time of war a preponderating influence, and certainly in the Council the chiefs were, or were dominated by, priests. Montezuma seems to have been both a priest and a chief. But the point is, that the Council which enforced the customary law had the same kind of sovereignty that we see in the case of the most elementary peoples. Moreover, the leader in war is not a sovereign any more than the king in the European feudal State was the sovereign. The sovereignty is the manifestation of the will of a community living within definite territorial limits to submit itself to the customs or laws that circumstances, at some time or another, had shown to be essential to the life of a community. The custodian of the customary law still measures the limits of sovereignty in this sense; and, no doubt, the priesthood, which had evolved from, but was not necessarily identical with, the custodianship, supplied the sanction. But the sovereignty really resided in Mexico as elsewhere in some body of persons considered capable of representing the will of the community and of safeguarding the means of communal safety. No doubt the Custodians of Tradition in modern societies of the highly organized type are very different from those who play a vital part in the life of elementary societies. Moreover, the invention of printing has created means of recording traditions, though the Australian bull-roarer and the Easter Island tablets show that the actual recording of tradition is immemorial.

It is desirable to see how among the Aryan peoples this Custodian of Tradition played his normal part For the purpose of the paper, I assume that

an agglomeration of people from many sources, from Egypt, from Asia Minor, from South-West Asia, became a fixed stock in a region bounded on the East by the Carpathians, South by the Balkans, West by the Austrian Alps, North by the range culminating in the Carpathians. I assume that the date of the fixing of the stock was not earlier than the year 5000 B.C., and that not earlier than 2500 B.C. the great flowings-out began, moving, respectively, South-East and North-West. At that date the common tongue was fixed but was still undifferentiated. I am for the moment only dealing, and that briefly, with the movements that were in progress in the last millennium before our era. I think I am within my authorities in saying, that while the proto-Aryan race was still united it was passing out of the Stone Age: that it was mainly pastoral, with some knowledge of agriculture; that it was patriarchal, with most, if not all, modern family relationships defined; that the tribes were broadly monogamous, as the result of the numerical equality of the sexes resulting from the absence of economic pressure; that there was no class nomenclature: that the family was a unit whose centre was the hearth, with some distinct traces of Ancestor worship: that there was tribal organization: and that the society was highly feudalized. With these facts in mind, with the assumption that somewhere in the region of 2000 B.C. the great dispersals began, it is necessary to enquire how these organized dispersals took place.

I imagine that before these dispersals there were many driftings off in the search of new pastures or trade that opened the way, but I am concerned with the great organized dispersals. In my view, on the evidence, these took place in military fashion; there was a highly organized and feudalized Host which went forth conquering and to conquer. That many Hosts went on their conquering way we know, but we must ask, what was the fashion of it all? Was the Host an Army as we understand the term, or was it a moving people organized for defence and mutual help in structural solidity as well as for attack and conquest? The process by which the Danes occupied a large part of England was probably the traditional process of all the organized Hosts. The Danish *Here* or Host occupied what we call the Dane-law, so far as I am able to see, by imposing upon the captured territory their military organization, an organization which, in fact, reflected the peace-time organization of their former land. The extant material seems to me to show conclusively that in the Northern, Central and Southern Dane-law the moving Host preserved its order in its settlement, and that the order was in itself a reflection of a previously settled order. The Danish settlement was, perhaps, the latest instance of the European tribal dispersion. The Celtic settlement of Britain affords another and more general instance. The Celtic Hundreds and Tens were, I think, units of the moving Host, and the territorial Hundreds were settlements of these units. In the laws of King Æthelstan we see the Tens and the Hundreds still as defensive bodies of men, and we see not only the Hundred Court but the

Tithing Court, while in the Frankish Empire we find a *centenarius* as the judge of a judicial assembly. I regard these bodies as echoes of a moving Host as it settled down in a new land. Dr. Clark regards them as Anglo-Saxon, but I prefer an earlier or Celtic origin. It may have been the fruit of both groups of incursions as may be the frank pledge of ten men. It seems to me that the whole of Britain is inscribed with these settlements of the various divisions of invading Hosts. But we know also that the kinship groups survived.

So we have side by side kinship groups and military groups or military territorial organizations. It is difficult to see how the two systems could have survived unless originally they were organically related, and, in my view, the Host was mechanically divided into fighting groups for fighting purposes, but retained, as the Danes retained, their kinship or group-system, which they imposed upon our islands. Even in England, the customary law of the various gavelkind areas—where we get in a more fully developed form the fundamental idea lying behind what we call borough English, that is to say, ultimogeniture, or the inheritance by the youngest son—shows us the passionate determination to maintain tribal structure and tradition. In ultimogeniture we see a process of inheritance by which the person succeeds who can carry to the latest point of time the tradition of the group or tribe. The youngest son is the Custodian of Tradition for the kinship group, and, therefore, he has the ancestral hearth. In Wales and Ireland the conception remained for ages more fully developed, and both in Wales and Ireland, and even Scotland, we see extant, into historic times, not only the preservers of the tradition of the kinship, but the Custodian of Tradition of the whole tribe: the Brehon and the Bard.

If we consider the actual march of the tribes in the process of dispersion, we are faced at once with a mystery that can only be explained by the presence of a Custodian of Tradition. How did it happen that these wandering, conquering peoples retained with extraordinary faithfulness the same characteristics? It might be expected that in the course of hundreds of years of travel over, and temporary settlements in, river-lands, forest, and mountain-lands, in areas already inhabited by tribes in a far lower grade of life, the original customs and legal practice would either disappear or be corrupted almost beyond disentanglement. Yet it was not so. The remotest of the wandering tribes in the West, those of Ireland, are perhaps nearest in customary law to the remotest tribes of the Middle East. Centuries of fighting, of forest travelling and river crossing, had not destroyed the essential unity. Nor must we forget that the tongue as well as the customs retained its vital features. The fact of preservation was due to the Pontiff, or the Druid, or the Brehon, who preserved family and gentile life, and the *sacra* of these organisms as well as the structure of tribal life. Movement of races means chieftainship and horde or Host organization before the movement begins. Chieftainship involves clientage, and clientage feudalism. But none of those things of

themselves imply—and in some sense each of these things is inimical to the continuance of the kinship groups. The groups survived, in spite of customary feudalism. Such groups depend on the conscious superintendence of the Custodian of Tradition. The Custodian might be a priest, he might be a noble or chief, he might be both. In Gaul, some nobles were Druids, and the fact is paralleled by the position of some chiefs in Mexico. In Ireland he became neither priest nor noble. The Custodian was a Brehon, a law-giver, and a law-recorder.

The Roman material is significant of the process by which the Host became the settlers of a new land. It is certainly possible that the origin of the *gentes* was a military occupation of a conquered territory. The Romans themselves believed that the *gens* was a great kinship group. There was a common religious worship, and the members of the older *gentes* had joint occupation of land. Mommsen suggests that at some prehistoric period the *gens* as a whole occupied the gentile territory. This, indeed, would have been the normal course of things, and it is not insignificant that by the XII Tables the body of the Gentiles on an intestacy inherited on failure of agnates. This was the case in Mexico. There were certain restrictions on a woman marrying out of the *gens*, and there are some traces of joint civil and military action.

But more light is thrown upon the subject by some consideration of the religious organization of Rome. Certain resemblances to the faith of the Rig-Veda people can, perhaps, be detected. Among the peoples who move through the pages of the Rig-Veda we see the highest form of Ancestor worship combined with a singularly pure form of belief in a nobler after-life. This religion was conducted by priests, one of whose main functions seemed to be the bringing of the dead man by the way of the Ancestors into touch with the God of Heaven, who is also the God of flowing waters on earth. In early Rome we seem to see a primal or elemental religion, with Juno as the Queen of Night, and Janus, her brother, the Lord of Day. These, indeed, are the two aspects of the Eastern Varunna, the God of the Sky. When Rome was a small tribal town, the people were called monthly to a special assembly to determine the calendar for the month: "For five days or seven days I call on Thee, Juno Covella."—Juno, the New or Hollow Moon. Who was it that summoned the people to this meeting? It was either a Pontifex Minor, an Officer of the Rex Sacrificulus, or the Rex himself. The business of the Pontifex was first to superintend the state's religious rites and ceremonies, including the ceremonies of the *curiæ* and *gentes*: he was the priest of the whole body. There may have been a Pontiff for each of the old tribes, but, however that may be, he was more than a superintendent of ceremonies. He controlled the times, seasons, and days for religious ceremonies and for legal business; he superintended family law and the administration of justice. He appointed to the highest religious offices, the *Rex* and the *Flamen*. He had to preserve

the family *sacra*, to see to the purity of family descent and the devolution of family property. He presided over the confarreate marriage, and over arrogation or adoption of persons *sui juris*: and over the battle-line when the warriors made their wills: and he decided which of the family should succeed. Finally, he was the purifier who cleansed men from their sins. There seems much in common between the Pontiff and the priests revealed by the Rig-Veda.

Now, what is the origin of the word "Pontifex"? I boldly, but not rashly, hold that it means what it says. "Bridge-maker." Ihering takes that view, and connects it with the original migrations of the Aryan peoples. But since the days of Ihering (he died in 1893) the European origin of the Aryan peoples has been established to the satisfaction of, at any rate, some weighty scholars, and this gives a new significance to the word "Bridge-maker." The tribes moving South-East from the shadow of the Carpathians had many rivers to cross. It is noticeable that Varunna, the chief god of the Rig-Veda people, was the God of Rivers. The movement of the races was one of continual peril by water, and the leaders must ceaselessly have devised methods of progress and escape. The life of the tribes was one of endless peril. There is, of course, on record one famous instance of such peril endured by a non-Aryan people, by a Semitic people escaping from their long servile sojourn in Egypt. Think of the crossing of the Red Sea. Moses was a Pontifex indeed. His device, whatever it may have been, perhaps the choice of an interval between the floods, became a miracle. He intervened with the God of Waters, and, lo! a bridge or way of escape was made. The Custodian of Tradition was a way-maker as well as a purifier of the people.

The known procedure of the earliest pontiffs points him out as the Custodian of Tradition, but his particular name was associated with the pathways that the tribes had trod. The name "Pontifex" was not adopted in the North-Westward movements. There the leader had to deal with endless forest lands, and he became a Druid, a priest of groves. But the religious rites of the Celts were not less significant than those of the Romans. Dr. Rice Holmes defines the Celtic faith as "a performance of traditional rites" aiming at the safety of the community. Gallic Druidism was associated with a settled tribal system in which the *civitas* was an aggregation of *pagi* or country districts. The tribal king was assisted by a Council of Elders. The dominance of the Druid and his control of a forest people along lines of self-defence are the notable facts.

To bring a very difficult paper to a close: I have illustrated the idea of a Custodian of Tradition from many types of customary society, and I suggest that he was the person, the universal person, who made possible the preservation of the group and of the linked groups, and so made possible those new ranges of human organization which some day, somewhere (perhaps sooner than we think), may give to the human race what was known to prescient Romans as *humanitas*.

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THE NEANDERTHAL PHASE OF MAN.

The Huxley Memorial Lecture for 1927.

[With Plates VI–IX.]

By Aleš Hrdlička.

I.—Introductory Remarks.

In choosing my subject for the Huxley Lecture, it was only natural to reflect what he, in whose honour the lecture is given, would have chosen: and I felt that with his interest, keen mind, and extensive knowledge he would doubtless have preferred some of the most unsettled and difficult problems of man's antiquity and evolution. And he could hardly find to-day one offering more difficulties, and the clearing of which is of more importance to science, than that of Neanderthal man: a subject which, moreover, was one of his first concerns.

Huxley, as early as 1863, published, as one of his essays on the *Evidence as to Man's Place in Nature* (8vo, London), under the sub-title "On Some Fossil Remains of Man" (pp. 118–59), a noteworthy discussion on the Neanderthal skull. In this essay, at that early date, and in opposition to the authority of Rudolf Virchow, Huxley recognized that there was no reason for regarding the skull as pathological: that it unquestionably represented typical race-characters: and that this race was inherently related to man of to-day.

Since Huxley, the Neanderthal skull and Neanderthal man have been written about extensively, but often with but little originality. New finds belonging to the period have become numerous—almost more numerous than legitimate new thoughts. To-day it is no more the question of a single skull, but of a large and important section of man's antiquity, documented ever more geologically, palæontologically, and anthropologically. But the distressing part is, that the more there is the less we seem to know what to do with it. Speculation there has been indeed enough, but the bulk of it so far has led not into the sunlight, but rather into a dark, blind alley from which there appears no exit.

The generalized present doctrine about Neanderthal man may best be seen from the following brief quotations, taken from four of the most recent and representative authors, one a palæontologist, one an anatomist, and two prehistorians:—

> Marcellin Boule (*Fossil Men*, 1923, pp. 242–3): "*Homo neanderthalensis* is an archaic species of man. It was abruptly followed by the Aurignacians, 'who differed from the Mousterians as much in their superior culture as in the superiority or diversity of their physical characters.'"

M. C. Burkitt (*Prehistory*, 1921, p. 90): "The race who made this culture (Mousterian) was of a low type known as the Neanderthal race. This appears to have been a throw-back in the line of evolution of mankind, and this retrograde sport seems to have had no successor."

George Grant MacCurdy (*Human Origins*, 1924, vol. i, pp. 209–10): "During ages long subsequent to the time when the races of Piltdown and Heidelberg lived, there spread over the greater part of Europe the primitive Neanderthal race, of coarse mental and physical fiber. . . This race contributed nothing, in fact, save utilitarian artifacts, the so-called Mousterian industry. . . The Aurignacians were a 'new race,' which supplanted completely the archaic Neanderthal race of Mousterian times."

Sir Arthur Keith (*The Antiquity of Man*, vol. i, pp. 198–9): "The most marvellous aspect of the problem raised by the recognition of Neanderthal man as a distinct type is his apparently sudden disappearance. He is replaced, with the dawn of the Aurignacian period, by men of the same type as now occupy Europe. . . A more virile form extinguished him. . . He was not an ancestor of ours, but a distant cousin."

All these opinions can probably be traced to the authoritative notions arrived at during the earlier years of this century, on material less ample than at present, by one of the foremost students of Neanderthal man, Gustav Schwalbe.

There were, and are, however, also other views. From Huxley and Busk to Karl Pearson; from Fraipont and Lohest, Houzé, Kollmann, and Sergi to Stolyhwo, Gorjanović-Kramberger, and, most recently, Weidenreich, there have been expressed opinions that Neanderthal man was not a different species, and that he did not completely die out, but became gradually transformed into later human forms, from which in turn developed man of to-day.

The problem of Neanderthal man, as it now exists, presents the following uncertainties:—It is not yet properly known just where, when, and how he began, and how far eventually he extended geographically; it is not yet definitely known just who he was and what were his phylogenetic relations to the man that succeeded him; and it is not known plainly just why and how he ended, and whether or not he left any progeny. Besides which there are still but more or less vague notions regarding the exact length of his period, his average physique, his variations and sub-races, the reasons for his relatively large brain, his changes in evolutionary direction. And there are other uncertainties. It thus appears that, notwithstanding his already numerous collected remains, Neanderthal man is still far from being satisfactorily known to us taxonomically, chronologically, and anthropologically.

This state of uncertainties, and of paralyzing notions, concerning one of the main early phases of humanity, is a serious obstacle to further progress, and deserves all possible attention. This even if, without further material, it may be possible to do

little more than bring into the subject a greater degree of order and comprehensiveness; to point out here and there facts that have not been sufficiently weighed; and to call attention to some of the inconsistencies in the prevalent assumptions.

The presentation will be as far as possible impersonal; and I wish to acknowledge my deep indebtedness for many of the data to the authors given in the references, as well as to those who in the past, and again during the weeks just passed, have facilitated for me the study of original sites and materials.

II.—NEANDERTHAL MAN.

Definition.

The only workable definition of Neanderthal man and period seems to be, for the time being, *the man and period of the Mousterian culture.* An approach to a somatological definition would be feasible, but might for the present be rather prejudicial.

Geographical Extent.

The territory already known to have been occupied by Neanderthal man was collectively a very large one, including, roughly, all Europe south of a line drawn from southern England to the northern limits of Belgium and thence, with a moderate curve northward over Germany and Poland, to Crimea and possibly the Caucasus, with parts (at least) of northern Africa and of Asia Minor. Whether he reached farther east, south-east, or south, must, notwithstanding some claims, be regarded as still uncertain.

The whole great territory over which his remains have been discovered was doubtless not occupied by Neanderthal man synchronously, or continually, or with equal density. He was evidently not a nomad, though probably more or less of a rover who stayed in a place for a time and then moved away. Some of the deposits he left show up to six different layers of occupation (Grimaldi, Olha, La Quina, Le Moustier, Krapina, etc.). The density of his remains is greatest in France and Belgium, least in the northern limits of his territory and in the mountainous parts, particularly the Alps, Carpathians, and the Balkan peninsula.

The distribution of Neanderthal man in Europe is of much significance, as will be seen later.

Limits and Duration.

The boundaries and duration of the Neanderthal period are those of the Mousterian culture. They may now be delimited with some precision, though not finality, by data of a palæontological, geological, and archæological nature.

Palæontology.

Neanderthal man coexisted with a large series of now extinct animals: the question is, how intimately are these forms associated with his coming and going?

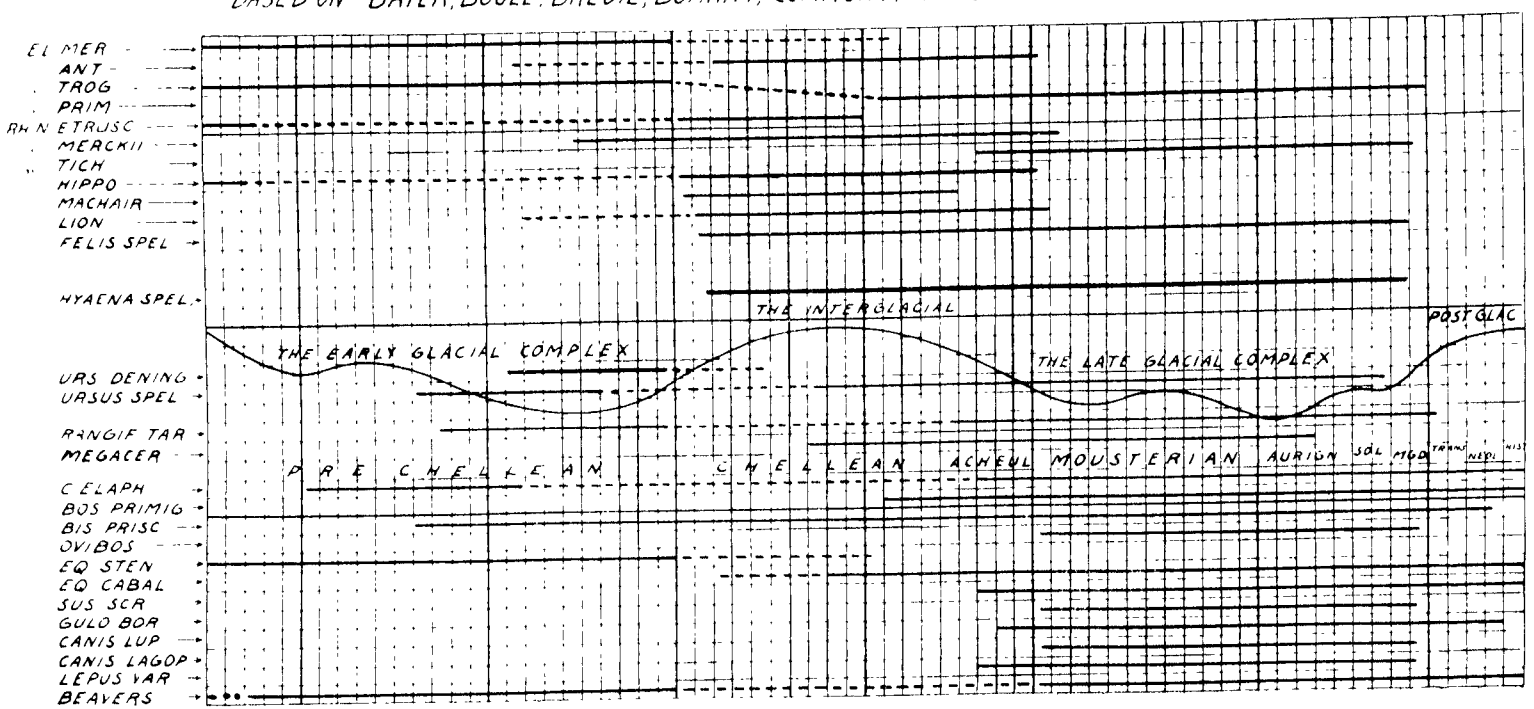

THE ICE AGE · FAUNAL RELATIONS TO MAN ·
CENTRAL AND WESTERN EUROPE
BASED ON BAYER, BOULE, BREUIL, BURKITT, COMMONT, MAC CURDY, OBERMAIER, CAPITAN AND PEYRONY
EL MER
ANT
TROG
PRIM
RH N ETRUSC
MERCKII
TICH
HIPPO
MACHAIR
LION
FELIS SPEL
HYAENA SPEL
URS DENING
URSUS SPEL
RANGIF TAR
MEGACER
CELAPH
BOS PRIMIG
BIS PRISC
OVIBOS
EQ STEN
EQ CABAL
SUS SCR
GULO BOR
CANIS LUP
CANIS LAGOP
LEPUS VAR
BEAVERS
THE EARLY GLACIAL COMPLEX
THE INTERGLACIAL
THE LATE GLACIAL COMPLEX
POST GLAC
PRE CHELLEAN
CHELLEAN
ACHEUL
MOUSTERIAN
AURIGN
SOL
MGD
TARDI
NEOL

FIG. 1.

The Mousterian culture is the culture, essentially, of the earlier times of the mammoth, the woolly rhinoceros, the cave lion, bear, and hyæna, the horse, the old ox, the bison, the reindeer, the stag. There are many other forms, but these are the most characteristic.

The Mousterian culture neither comes in, however, nor ends with any of these large mammals. The mammoth, derived probably from the Trogontherium, is present since at least the Acheulean and lasts to, if not beyond, the end of the Magdalenian. The cave lion, bear, and hyæna, as well as the horse, ox, bison, and even the reindeer, are all there since or before the beginning of the Acheulean, and they last throughout the Mousterian, Aurignacian, Solutrean, and Magdalenian periods, to disappear gradually during the latter, or persist to historic times.

Mousterian man begins during the latter part of the last great inter-glacial and extends deep into the final glacial time, without perceptible direct relation to the fauna. His remains at Montières, Villetranche, Ehringsdorf, the rock-shelter Olha, some of the Mentone caves, and elsewhere, show still the remains of the *Elephas antiquus*, the Merck's rhinoceros, the large lion, and the panther. On the other hand, various Arctic species (*Ovibos mosch.*, *Gulo bor.*, *Canis lagop.*, *Lepus arct.*, etc.) come in as the cold advances during the Mousterian period, without, however, marking either its beginning or its end.

There is, therefore, no definite line of faunal demarcation for the beginning and none for the end of the Mousterian period. Neanderthal man did not come in with any fauna, nor did he go out with any—which also are facts of importance.

Geology.

Geological information about the Mousterian period is not as precise or full as is desirable, but it permits of several valuable conclusions.

A survey of the better-known Mousterian sites, from Germany and Belgium southward, shows that fully one-third of them were in the open, while of the remainder quite a few (La Quina, Sergeac, La Ferrassie, etc.) are found in and about shallow rock-shelters that could not have afforded much protection. In Switzerland, moreover, the earlier Mousterian man lived in caverns at a high elevation (Wildkirchli, 4,905 ft.; Drachenberg, 8,028 ft.). All of this indicates that the climate during a considerable part of the Mousterian period was not severe enough generally to drive man into the caves, or even down from the mountains, thus pointing to inter-glacial rather than glacial conditions.

There is no evidence of any critical geological manifestations, either about the beginning or about the end of the Mousterian period.

The cultural remains of the Mousterian in the open stations, as well as those in caves, denote both considerable age and long duration of the period. In the open the remains lie mostly in old gravels or sand, rarely in clay or loess, or in travertine rock of lacustrine origin. There may be two or three cultural strata or horizons

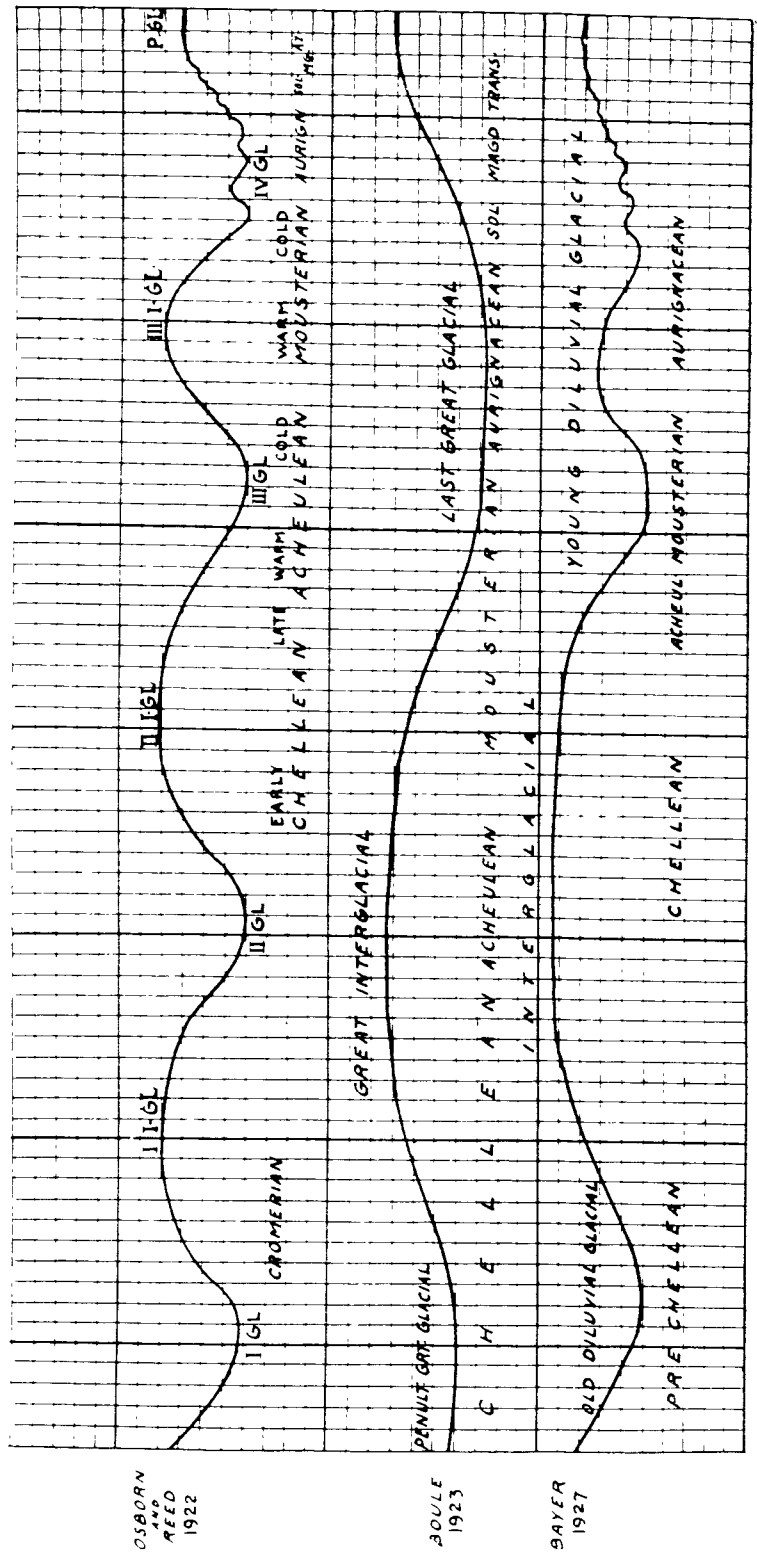

THE ICE AGE AND MAN
APPROXIMATIONS ACCORDING TO DIFFERENT RECENT INVESTIGATORS
OSBORN AND REED 1922
BOULE 1923
BAYER 1927
I GL
II GL
III GL
IV GL
P. GL
CROMERIAN
EARLY CHELLEAN
LATE CHELLEAN
WARM ACHEULEAN
COLD MOUSTERIAN
WARM MOUSTERIAN
COLD AURIGN. AT THE
GREAT INTERGLACIAL
PENULT GRT GLACIAL
LAST GREAT GLACIAL
CHELLEAN
ACHEULEAN
MOUSTERIAN
AURIGNACEAN
SOL. MAGD TRANS.
PRE CHELLEAN
OLD DILUVIAL GLACIAL
YOUNG DILUVIAL GLACIAL
ACHEUL MOUSTERIAN
AURIGNACEAN

FIG. 2.

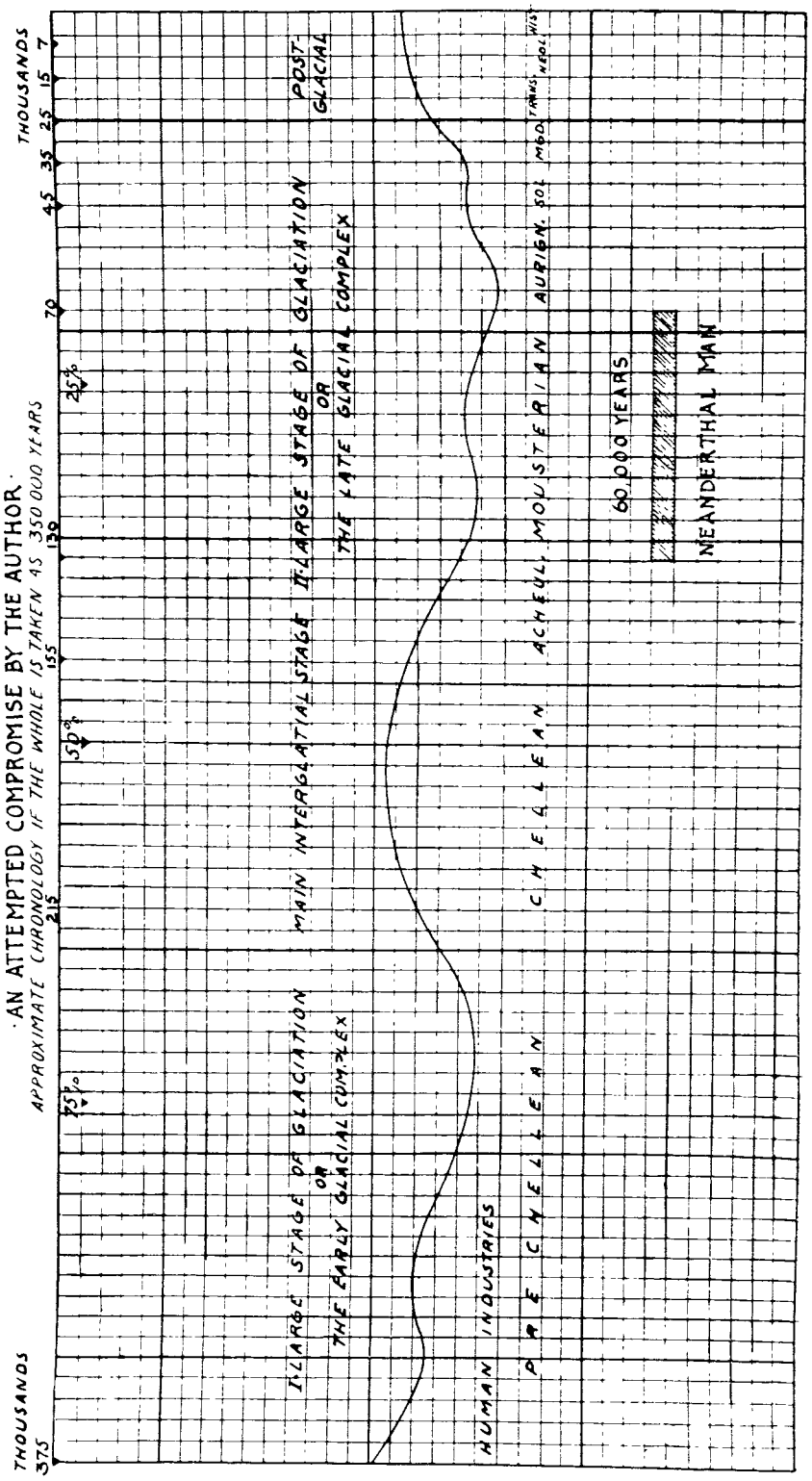

THE ICE AGE AND ITS RELATIONS TO MAN
AN ATTEMPTED COMPROMISE BY THE AUTHOR
APPROXIMATE CHRONOLOGY IF THE WHOLE IS TAKEN AS 350 000 YEARS
THOUSANDS
375
215
155
130
70
45 35 25 15 7
THOUSANDS
25%
50%
75%
ILLARGE STAGE OF GLACIATION
OR
THE EARLY GLACIAL COMPLEX
MAIN INTERGLACIAL STAGE
ILLARGE STAGE OF GLACIATION
OR
THE LATE GLACIAL COMPLEX
POST-GLACIAL
HUMAN INDUSTRIES
PRE CHELLEAN
CHELLEAN
ACHEUL, MOUSTERIAN
AURIGN. SOL. MAGDALENIAN
60 000 YEARS
NEANDERTHAL MAN

FIG. 3.

(as at Ste. Walburge, High Lodge, Ipswich, Amiens, etc.), indicating a repeated occupation of the same site after shorter or longer intervals, though there have not been found as many occupational layers as in some of the caves.

Archæology.

Neither palæontology nor geology explain Neanderthal man: perhaps we may learn more from Archæology.

The main archæological questions are: How does Mousterian man differ in habits and arts from the man that preceded him, and from him that followed? And are the differences, or are they not, substantial enough to brand him as something apart from either his predecessors or his followers?

Occupations.

The chief activities of man in nature relate to his housing, to the obtaining and preparing of food, and to the manufacture of tools, utensils, and weapons. Let us see briefly how Neanderthal man compared in these respects with his forbears and his followers.

Housing.—There is a prevalent idea that Neanderthal man was essentially a cave-dweller, and this idea seems generally to carry with it a sense of inferiority. The records now available throw a different light on this matter. Analysis of 360 better-known palæolithic sites in Europe and the neighbouring regions (from records compiled principally by MacCurdy) gives the following interesting information:—

Dwellings in the Open and in Caves during Palæolithic Times.

Period.	Sites in the Open.		Rock-Shelter or Cave.	
	No.	Per cent.	No	Per cent.
Pre-Chellean	11	*100*	—	—
Chellean	32	*94*	2	*6*
Acheulean	36	*78*	10	*22*
Mousterian	45	*34*	88	*66*
Aurignacian	24	*18*	112	*82*
Solutrean	10	*14*	62	*86*
Magdalenian	17	*10*	148	*90*
Azilian and Tardenoisian	4	*9·5*	38	*90·5*
Accompanying Neolithic	22	*22·5*	76	*77·5*

The figures and chart (Fig. 4) show some curious and important facts. Man begins as a dweller in the open, but since the warm Chellean already he commences also to utilize the rock-shelters and caverns, and then as the climate cools he gradually takes more and more to the caves. In these phenomena the Mousterian period shows nothing striking, nothing individual. It falls harmoniously into the curve of the progress of cave-dwelling, to be followed equally harmoniously by the Aurignacian

and the succeeding periods. Mousterian man occasions no disturbance in the human housing conditions of the time, and what is even more remarkable, no disturbance or change whatsoever is occasioned by the advent of the Aurignacian. Aurignacian man follows in the footsteps of his predecessor without interruption. Like the Neanderthaler, he builds, in the open, huts of perishable materials that

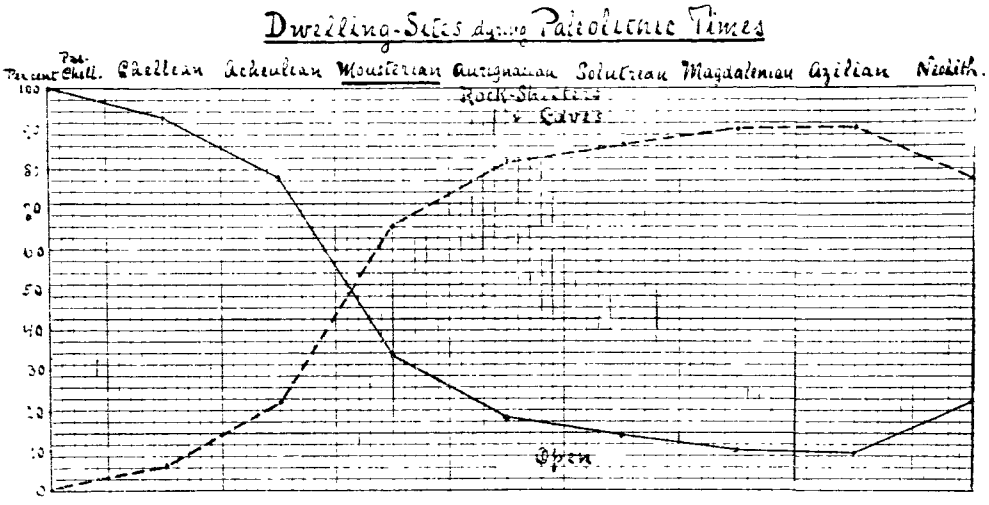


FIG. 4.

leave no trace, and he utilizes the caves exactly as much as, and eventually even more than, Neanderthal man. He continues, in fact, on many of the same sites and in most of the same caves that the latter has used, without introducing any innovation. He, also, like Neanderthal man, leaves here and there a whole series of occupational strata which testify to much the same habits of life. Yet Aurignacian man is represented as a new-comer, of a different species from that of the Neanderthaler, and mentally vastly superior.

Food.—Neanderthal man was chiefly a hunter of the larger mammals of his time. He knew fire, but knew not domestication of animals, or agriculture. He compared in these respects with the preceding and following man as follows :—

Food, and Habits Relating Thereto.

Acheulean Man.	Mousterian Man.	Aurignacian Man.
Chiefly a hunter.	Chiefly a hunter.	Chiefly a hunter.
Fisher (?).	Fisher (?).	Fisher (probably).
Use of molluscs—no trace.	Use of molluscs—no trace (?).	Use of molluscs (?).
Knew fire.	Knew fire.	Knew fire.
Preparation of food : probably by roasting on fire or coals—no trace of any vessels for boiling.	Preparation of food : probably by roasting on fire or coals—no trace of any vessels for boiling.	Preparation of food : probably by roasting on fire or coals—no trace of any vessels for boiling.

Food, and Habits Relating Thereto—continued.

Acheulean Man.	Mousterian Man.	Aurignacian Man.
No agriculture.	No agriculture.	No agriculture.
No domestication of animals.	No domestication of animals.	No domestication of animals.
Bones broken for brains and marrow.	Bones broken for brains and marrow.	Bones broken for brains and marrow.
Bones and refuse accumulations in inhabited caves, and in front of them.	Bones and refuse accumulations in inhabited caves and in front of them.	Bones and refuse accumulations in inhabited caves and in front of them.
No trace of storage of food.	No trace of storage of food.	No trace of storage of food.
Pictorial representation of hunted animals—not known.	Pictorial representation of hunted animals — none known yet.	Pictorial representation of hunted animals — gradual development.

Evidently, in food and food habits, as in housing, Mousterian man was quite like both the Acheulean man that preceded him, and the *Homo sapiens* that followed.

Clothing.—About the clothing of Neanderthal man we know nothing direct, as is also the case with Acheulean and Aurignacian man. But the cool climate, on the one hand, and the much increased numbers of tools with a cutting-edge, and especially scrapers, on the other hand, indicate extensive preparation of the skins of animals, to be used, doubtless, for clothing and bedding. No sudden change in these connections is observable from the Acheulean to the Aurignacian.

Tools.—The Mousterian period is characterized by a definite phase of stone industry, but so are all the periods before and after it. It has no abrupt beginning. It uses flint where this can be had, as do all the other industries: where flint is absent or scarce, it employs quartzite and other stones. The use of bone begins in the Mousterian, to increase henceforward. The period shows three stages of evolution, the lower, middle, and upper, as do also later the Aurignacian and the Magdalenian periods. The implements range from crude to beautifully made (as at La Ferrassie, La Quina, Le Moustier); the technique is partly different from, but in general not inferior to, either the late Acheulean or the earlier Aurignacian, and there are indications that there was no general sudden ending.

On the whole the Mousterian industry, though characteristic, does not provide evidence of something entirely new and strange, intercalated between the Acheulean and the Aurignacian, beginning abruptly by displacing the former or ending suddenly through displacement by the latter. There is much in fact at either end that may prove to be, more or less, of a transitional nature.

Thus, in H. F. Osborn's opinion (Obermaier, 1924, p. x), the Mousterian "constitutes a further evolution of the two earlier cultures"—the Chellean and the Acheulean. At Ehringsdorf, in the lower travertine, "the technique of the chipping is Acheulean, but the forms are largely Mousterian" (MacCurdy, *Human Origins*, 1924, vol. ii, p. 392). According to Burkitt (*Prehistory*, 1921, p. 27), ". . . workers in Dordogne find a great difficulty in distinguishing between Upper Acheulean beds

and Lower Mousterian beds. In fact, M. Peyrony often only solves the problem by the absence or presence of reindeer." And quotations of similar import could be multiplied. As to the upper limits—at the Cotte de Ste. Brelade, Jersey, excavated by Nicolle, Sinel, and Marett, the upper (fifth) layer gave graceful implements "that may be either upper Mousterian or Aurignacian" (Burkitt). At Le Moustier, the type-station of the Mousterian industry, the upper rock-shelter showed eight layers, "the top one being Aurignacian, the second transitional (Audi), and the rest Mousterian, except the seventh which was sterile." The lower rock-shelter was even more instructive. The section from top to base was: 6. Lower Aurignacian; 5. Transitional (Audi); 4. Typical Mousterian; 3. Mousterian with Audi forms and few *coups-de-poing*; 2. Mousterian with some Audi forms and many *coups-de-poing*; 1. Some Audi forms, no *coups-de-poing* (Burkitt, 1921, p. 93). But perhaps the best comprehensive statement on this subject is that of MacCurdy, one of the oldest and most cautious students of prehistory. In his *Human Origins*, 1924, vol. i, pp. 161–2, we read: "In certain French stations, a transition from the Mousterian to the Lower Aurignacian occurs, as for example, at Le Moustier (Dordogne), La Verrière (Gironde), and especially at the rock-shelter of Audi in the village of Les Eyzies. In comparison with Mousterian points, those of Audi are more slender and are slightly recurved. The convex margin is rendered blunt by retouching so as not to injure the hand while using the opposite margin for cutting or other purposes. Such a tool, as much a knife, or scraper, as a point, bridges the gap between the Mousterian point or double scraper and the Lower Aurignacian blades of the Châtelperron type. At Audi it is associated with small cleavers and disks, scrapers, spoke-shaves, asymmetric points, and scratchers. The Grotte des Fées at Châtelperron, though distinctly Aurignacian, is so closely related to the transition stage that the chronologic difference must be small. An intermediate stage is recognizable at La Ferrassie (Dordogne)."

The Audi culture is still somewhat controversial, Abbé Breuil (recent letter) regarding it as "degenerate Mousterian." Notwithstanding which, the impression is growing that the more the initial and the terminal stages of the Mousterian industry are becoming known, together with the late Acheulean and the earliest Aurignacian, the less abrupt and striking appear their differences and the greater grows the feeling that they are not absolutely separated. Some interesting things in this connection are now being gathered by Absolon in Moravia.

Sequence of Culture.

The sponsors of the view that Aurignacian man was a man of different and superior species to the man of the Mousterian period, conceive him for the most part, apparently, as an invader who came from somewhere outside the Neanderthal area, overwhelmed completely the established less capable species, and annihilated or at least wholly replaced it, over all the great domain over which it once extended. These ideas, however, are never expressed very clearly, and little thought is given to the incongruities they involve.

They would imply, first of all, the invasion of Europe during the height of the last glaciation. This is not in harmony with the main laws of human and biological spread, namely: Movement in the direction of least resistance, and movement in the direction of better material prospects, which are, first of all, climate and food. In the entire history of Europe the movements of men have tended always toward "a place in the sun" and away from the cold.

Such views postulate, next, large numbers of the new-comers to suffice for the vast task. But such large numbers would necessarily mean somewhere near a still larger mother-population, and there is no trace, either in western Asia or northern Africa, the only regions from which such invasions at those times would have been practicable, of any such numerous Aurignacian population.

It is a very serious question whether in palæolithic times, when man was without a tamed animal, without stocks of non-perishable food, dependent wholly on hunting without yet a bow and arrow, and in the imperfect social organization of that time, any larger armed invasion would have been feasible. A peaceful extension, on the other hand, would not lead to the annihilation or expulsion of the invaded population, and if small or gradual, would lead to an amalgamation with, rather than the extinction of, the native stock. A complete displacement by any agency is difficult to conceive, and there would remain to be explained the fate of the displaced people.

It stands to reason that these great difficulties would have to be satisfactorily explained away before there could be a general intelligent acceptance of an Aurignacian invasion with Mousterian extinction.

Finally, the coming of a distinct and superior species of people ought to have left a very tangible record on the sequence and nature of the cultural levels of the two stocks.

As to sequence, 257 of the better-known and recorded Mousterian sites (as recorded by MacCurdy) give, on analysis, the following conditions:—

Sequence of Industries.

	Open Stations.		Rock-Shelters and Caves.	
Mousterian Topped by:	No.	Per cent.	No.	Per cent.
(No culture)	(34)	(55·7)	(15)	(18·9)
Neolithic	4	6·6	4	5·1
Magdalenian	3	4·9	9	11·4
Solutrean	2	3·3	10	12·7
"Palæolithic"	1	1·6	2	2·5
Aurignacian	17	27·9	39	49·4
	(61)	—	(79)	—
MOUSTERIAN	(54)	—	(63)	—
Mousterian Reposing on:				
Acheulean	24	44·4	4	6·3
Chellean	5	9·3	3	4·8
(No culture)	(25)	(46·3)	(56)	(88·9)

The Mousterian culture, in nearly one-half of its stations in the open, follows direct upon the Acheulean; and the Aurignacian, in very nearly one-half of the rock-shelters and caves, and in not far from one-third of the stations in the open, follows upon the Mousterian. It would seem that these figures speak for a rather close relation of these peoples in their habits, and that particularly between the Mousterians and Aurignacians—who should represent two different species of man, one greatly superior to the other.

An objection may here be raised to the effect that the number of available, and especially of the more suitable, caves was limited and, therefore, the same caves that once served the Neanderthalers had to be used also by the shelter-needing Aurignacians; but this point is invalidated by the showing of the Solutreans and Magdalenians, who were even more cave-dwellers than the Aurignacians, yet are found collectively in less than one-fourth of the Mousterian caves.

Another point is, that it is not always the lower or earliest Aurignacian that follows upon the Mousterian. But such a discord is common to all the periods. It may mean a discontinuity, and may also mean a persistence of any given culture in some localities longer than in others. In both cases it would speak against a sudden general displacement of one culture.

There is evidently much here, once more, to be explained by those who conceive of Aurignacian man as very distinct from, and superior to, the Mousterian, and as having suddenly replaced the latter.

Art.

The Aurignacian period does not appear to come in full-fledged, as is sometimes taken for granted, but to develop locally, both in industry and art, from humbler beginnings (Breuil, Burkitt, Evans, MacCurdy, *et al.*). Also there seems to be more difference in these respects between the lower and the middle Aurignacian than there is between the lower Aurignacian and the upper Mousterian with the Audi and the Châtelperron stages.

It may, moreover, be unjust to assume that Mousterian man was devoid of art-sense. He may not have left any designs in caves (though that is not perhaps absolutely certain), but the same is true of the Neolithic and many other early, as well as later, populations. How many such designs, or other permanent forms of art, for instance, have been left by the prehistoric man of England, or Belgium, or Germany, Moravia, Poland, or Russia? How many have been left more recently by such highly artistic people as the Slovaks and the peoples of the Carpathians and the Balkans? And how many cave designs comparable to those of France and Spain do we find in the whole continent of America, with all its able and highly artistic population, a large part of which—the Lagoa Santa-Algonkin type—may even be related to the Aurignacians? On the other hand, practically a replica of the European cave-art was produced by the lowly Bushmen of South Africa, who certainly were no superior race or species.

That the Mousterians may not have been lacking in artistic sense is indicated by some of their beautiful implements from La Quina and other stations; by the beautiful topaz and then a crystal cleaver found in 1925–6 by the American school at Sergeac; by the decorated bone fragment from La Ferrassie; and possibly by the *pierres-figures* (*e.g.* Roellecourt, Dharvent), and used chunks of manganese oxide, found occasionally in the Mousterian deposits (*e.g.* La Quina, Henri Martin). Sir Arthur Evans tells us that, "When we turn to the most striking features of this whole cultural phase, the primæval arts of sculpture, engraving, and painting, we see a gradual upgrowth and unbroken tradition. From mere outline-figures and simple two-legged profiles of animals we are led on step by step to the full freedom of the Magdalenian artists" ("New Archæological Lights on the Origins of Civilization in Europe," by Sir Arthur Evans, *Science*, 1916, n.s. xliv, No. 1134, p. 406). MacCurdy is even more direct: "The inception, development, and decay of Quaternary art all took place during the upper palæolithic period. The beginnings of sculpture, engraving and fresco are traceable to the Aurignacian epoch" (MacCurdy, *Human Origins*, vol. i, p. 155). And there are some very good words of appreciation of the abilities of Mousterian man in Sir Arthur Keith's recent two volumes (*The Antiquity of Man*, 1925). Thus—Archæology fails also, as did Palæontology and Geology, in isolating Neanderthal man, and in separating him from the succeeding forms of humanity.

III.—THE SKELETAL REMAINS.

The Skeletal Material.

The crucial part of the whole question of Neanderthal man is, however, that of the evidence of the skeletal material, for it is essentially upon this that the separateness and discontinuance of the Neanderthal type of man has been based. It would probably be easy to harmonize all the rest of the differences between Neanderthal and later man with the idea of a simple evolution and transmission, were it not for the obstacle of the Neanderthal man's skulls and bones. These impress one by such marked differences from those of any later man, that a bridging over of the gap has, to many, seemed impossible.

Let us glance at what the present skeletal evidence of Neanderthal man consists of. Leaving out of consideration the unimportant and the doubtful specimens, the remains comprise now the following (pp. 263–5).

It will be well in this connection to contrast the Neanderthal remains with those from the Acheulean on one side, and those from the Aurignacian and the following periods on the other. The results are unexpected. There is nothing authentic from Acheulean times; and there is less, in the number of finds, from the Aurignacian than there is from the Mousterian period. Moreover, what there is from the Aurignacian is found, on consulting the details of the discoveries, to be essentially middle and upper, rather than the most needed early Aurignacian. The data leave

Neanderthal Remains in Chronological Order of Discovery.

Name of Find.	Year of Discovery.	By whom Discovered.	Find Consists of—	Essential Data or Discovery.	Reported by and when (originally).
Gibraltar	1848	Labourers	Adult female skull, damaged (without lower jaw).	Found accidentally, in a crevice during blasting for an emplacement of a battery.	G. Busk, 1868.
Neanderthal	1856	Labourers	Adult male skull-cap, and 13 bones of the skeleton.	Found accidentally in a cave.	C. Fuhlrott, 1857; D. Schaafhausen, 1858.
La Naulette	1866	E. Dupont	Imperfect lower jaw of a young adult woman.	Excavated from undisturbed deposits in Troue de la Naulette, near Dinant, Belgium, under layers of stalagmite alternating with six layers of earth, the two 12 feet in thickness.	E. Dupont, 1866.
Šipka	1880	Karel J. Maška ...	Fragment of the frontal part of the lower jaw of a child of about eight years.	Excavated from the "Badger hole," a low lateral extension of the Šipka cave. Lay 1·4 metres deep in undisturbed ash-bed. Freed from a lump of ashes, suffering thereby probably the loss of a tooth and some small pieces of bone (Maška).	Wankel, 1880; Schaafhausen, 1881 and 1883; R. Virchow, 1882; Maška, 1886.
Spy No. 1 and No. 2 ...	1886	Marcel de Puydt and Maxim Lohest.	Two skeletons, males, adult ...	Excavated from Terrace in front of a cave, 6 and 8 metres distant from entrance, 4 metres deep.	J. Fraipont and M. Lohest, 1887.
Bañolas (Gerona, Spain)	1887	Lorenzo Roura ...	Lower jaw	In hard travertine, about 15 feet from surface.	Cazurro, 1909; Harlé, Pacheco and Obermaier, 1912.
Malarnaud (Ariège) ...	1889	F. Regnault	Lower jaw, adult female ...	In ancient clay, with bones of extinct animals, capped by a layer of stalagmite.	H. Filhol, 1889.

Neanderthal Remains in Chronological Order of Discovery—continued.

Name of Find.	Year of Discovery.	By whom Discovered.	Find Consists of—	Essential Data or Discovery.	Reported by and when (originally).
Krapina (Croatia) ...	1895, 1899, and 1905	K. Gorjanović-Kramberger.	Parts of over 20 skeletons (adult and sub-adult, both sexes).	Excavated from the fillings of an old rock-shelter, with remains of fire, bones of extinct animals, and stone implements.	Gorjanović-Kramberger (various dates).
Le Moustier (Dordogne)	1908	O. Hauser	Skeleton of an adolescent male	Excavated from an accumulation of cultural debris of Mousterian age, in lower rock-shelter, at Le Moustier.	O. Hauser and H. Klaatsch, 1909.
La Chapelle (Corrèze) ...	1908	Abbés A. Bouyssonie, J. Bouyssonie, and L. Bardon.	Skeleton (male, middle-aged)	Burial (formal) in a depression dug in the marly soil of the floor of a cave.	A. and J. Bouyssonie and L. Bardon, 1908; M. Boule.
Jersey (Channel) ...	1910	MM. Nicolle and Sinel	13 teeth (from both jaws) of one skeleton.	Cave accumulations, near an ancient hearth.	R. Marett, 1911; A. Keith, 1911.
La Quina (Charente) ...	1908–21	Henri Martin	Skeleton of an adult (female (?) 1911); lower jaw (1912); skull of a child (1921); fragments of several skeletons (different dates).	Partly in ancient mud-bed of the near-by stream (adult skeleton, etc.); partly in kitchen refuse and debris (child skull, etc.).	H. Martin, 1911–27.
La Ferrassie (Dordogne)	1909, 1910, and 1912	Peyrony	6 skeletons (2 adults—a male, a female—and 4 children).	At base of accumulations in a shallow rock-shelter.	Capitan and Peyrony, 1909, 1912.
Ehringsdorf (Weimar) ...	1914, 1916 (and later)	Quarrymen	2 lower jaws, remains of a child's skeleton, portion of a thigh-bone.	Deep in hard travertine (and intercalated layer).	G. Schwalbe, 1914; H. Virchow, 1920.
Galilee	1925	F. Turville-Petre ...	Fragments of the skull of a young adult, including the frontal-bone.	Cave, at the base of undisturbed palæolithic layer, 6½ feet below the modern floor-level.	F. Turville-Petre and Arthur Keith, 1927.
Ehringsdorf (Fischer's Quarry).	1925	Quarrymen	Broken vault of an adult skull.	Deep in hard travertine ...	F. Weidenreich, 1927.
Gibraltar	1926	Miss D. A. E. Garrod ...	Skull of a child of about ten years of age.	Rock-shelter, with Mousterian culture.	Abbé Breuil (shelter); Miss D. A. E. Garrod (prelim. notes), 1926.

The More Important and Better Authenticated Remains of Early Man from the Acheulean Period Onward.

Acheulean.	Mousterian.	Aurignacian.	Solutrean.	Magdalenian.
(?) Taubach (teeth).	(1) Gibraltar (skull).	(1) Most (Brüx) (skull).	(1) Laugerie-Haute (skeleton).	(1) La Madeleine (skeleton, fragments of jaws).
(?) Ehringsdorf (2 lower jaws).	(2) Neanderthal (skeleton).	(2) Combe-Capelle (skeleton).	(2) Badagoule (Dordogne) (1 child's skeleton).	(2) Laugerie-Basse (skeleton).
	(3) La Naulette (lower jaw).	(3) La Rochette (parts of skeleton).	(3) Klause, near Neu-Essing (skeleton).	(3) Chancelade (skeleton).
	(4) Šipka (lower jaw).	(4) Camargo (skull).		(4) Cap Blanc (skeleton).
	(5) Spy (2 skeletons).	(5) Castillo (lower jaw).		(5) Duruthy (near Sord Es Landes) (skeleton).
	(6) Bañolas (lower jaw).	(6) Hohlefels (lower jaw and teeth).		(6) Les Hôteaux (near Rossillon, Ain) (skeleton).
	(7) Malarnaud (lower jaw).	(7) Enzheim (skeleton).		(7) Lussac-le-Château (lower jaw).
	(8) Krapina (parts of over 20 skeletons).	(8) Mentone (8 skeletons).		(8) Grotte des Fées (parts of jaws).
	(9) Le Moustier (skeleton).	(9) Paviland (skeleton).		(9) Le Placard (skull and fragments).
	(10) La Chapelle (skeleton).	(10) Ojców (portion of a skull).		(10) Mas d'Azil (skull).
	(11) Island of Jersey (teeth).			(11) Obercassel (2 skeletons).
	(12) La Quina (skeleton; skull of child, lower jaw, parts of several skeletons).	*Aurignacian, probably.*		(12) Freudental (lower jaw and numerous fragments).
	(13) La Ferrassie (2 adult skeletons, parts of 4 children's skeletons).	Brno (Brunn) (1 skull, 2 skeletons).		(13) Miskolcz (child's skull).
	(14) Ehringsdorf (?) (2 lower jaws, child's skeleton, part of a femur).	Předmost (remains of about 20 individuals 14 skeletons fairly complete).		
	(15) Near Ehringsdorf (skull).	Solutré (3 skeletons).		
	(16) Galilee (skull).	*Aurignacian or later.*		
	(17) Gibraltar (child's skull).	Cro-Magnon (2 skeletons, parts of 3 others) Halling (1 skeleton).		

a strong impression that the material, but especially that from the earlier portion of the Aurignacian period, is still far from sufficient for drawing from it far-reaching inductions.

Taking the Neanderthal remains by themselves, we find that, notwithstanding their defects, they constitute a very respectable array of precious material. Let us see what it teaches.

If we placed all this material on a table before us, ranged by the date of discovery, we should see a remarkable assembly of more or less deficient or fragmentary skulls, jaws, and bones, with an array of loose teeth, the whole differing widely in colour, weight, state of petrifaction, and in principal morphological characters. We should be struck by the prevailing aspect of inferiority of the material, but the arrangement would soon prove unsatisfactory and we should proceed to another.

As there is not enough for a geographical subdivision, it would be logical to try next an arrangement of the specimens by their antiquity, from the oldest to the latest. The indications are that the Mousterian period was a long one, and of three stages—the inferior, middle, and superior. We should like, therefore, at least to arrange our material by these stages.

But we strike at once great difficulties. The very type-specimen of the lot, the Neanderthal skeleton, lacks direct chronological identification. There were neither animal nor industrial remains with it, or, if there were, they were not saved. Everything indicates that it is very old: physically it is in every one of its parts a prototype of Mousterian man: chronologically it may be even pre-Mousterian. Similar and other difficulties confront us in the case of the first Gibraltar skull and the Bañolas jaw, the important Krapina remains, the Ehringsdorf jaws; and it is not certain just where within the period to place most of the remainder of the specimens. The final conclusion is that, if the eyes are shut to the somatological characters of the remains, a satisfactory chronological grading of them becomes very difficult and uncertain.

The state of preservation or petrifaction of the remains is a question of local geophysics and chemistry, and thus incapable of giving any fair basis for classification. Thus there remain only the somatological characteristics of the skulls and bones themselves, and the endeavour to arrange them on this basis proves of much interest.

The general physical characters of the Neanderthal race have been more or less summed up by a number of eminent anatomists and anthropologists, including especially Schwalbe, Keith, Sollas, and Boule. The main features of the average Neanderthaler are therefore fairly well known. They include a moderate stature, heavy build, and a good-sized, thick, oblong skull, with pronounced supraorbital torus, low forehead, low vault, protruding occiput, large, full upper maxilla, large nose, large teeth, and a large, heavy lower jaw with receding chin. To which may be added stout bones of the skeleton, particularly the ribs and the bones of the lower part of the body, femora and tibiæ with heavy articular extremities, the tibia

relatively short and with head more than now inclined backward, a peculiar astragalus, and various secondary primitive features.

To this generalized type some of the specimens conform, it is soon seen, much more than others. It is realized that the general conception of the type has been built-up essentially on the Neanderthal, Spy No. 1, and the La Chapelle skulls and skeletons, but that from this generalization there are many aberrations.

An arrangement of the specimens in morphological order, beginning with those that show the most primitive or old features and advancing gradually towards more modern standards, is now in order, and the results are very striking.

The first strong impression is that, with all the seeming riches, there is still not enough material for satisfactory grading. The next appreciation is that it is hard to grade whole lots, but that it is necessary to grade the skulls, jaws, teeth, and bones separately. In one and the same skeleton are found parts and features that are very primitive and far away from man's later types, with parts and features that are almost like the modern: and every skeleton is found to differ in these respects. Here is facing us, evidently, a very noteworthy example of morphological instability, an instability, evidently, of evolutionary nature, leading from old forms to more modern.

The Neanderthal skull and skeleton proper, in all the parts that have been saved, is found to stand at the base of the series. It lacks, regrettably, the lower jaw and the teeth, as well as the sternum, most of the scapulæ, and the ribs, vertebræ, sacrum, the leg, the hand and the foot bones. Of what is present, the farthest from modern type is the skull, the next being the thigh and the leg-bones; the nearest to modern forms, though still somewhat distinct, are the bones of the upper extremity.

The closest in general to the Neanderthal skeleton is Spy No. 1, La Chapelle, and apparently the Le Moustier youth. But Spy No. 1 has almost primitive-modern jaws with practically recent teeth: the La Chapelle shows high cranial capacity, an "ultra-human" nose, and a strongly developed nasal spine: the Le Moustier skull has a higher vault and forehead, with less protrusion of the occiput: while the bones of the upper extremity in all three approach closely the modern types. Thus, even in these most nearly related four specimens, there is in evidence a considerable variability, with more or less advance in various parts in the direction of later man.

These facts deserve, undoubtedly, earnest consideration. But there is much more to be learned. Taking the remainder of the skulls, jaws, and bones attributed to the Neanderthal phase, it is seen that both the variability and the number of characters that tend in the direction of later man increase considerably. The Krapina series, by itself, is probably more variable from the evolutionary point of view than would be any similar series from one locality at the present. This is true in respect to the cranial form, the development of the forehead, the jaws, the teeth, and many of the bones of the skeleton. The additional Neanderthal remains manifest signs of similar instability of type and of tendencies of an evolutionary nature, this being

particularly true of Spy No. 2, and of the recently discovered Galilee and Ehringsdorf crania.

In his excellent description of the Galilee specimen, Sir Arthur Keith has shown that it has a fair forehead, with "no suggestion in the vaulting of its frontal bone that the roof of the skull was low and flat, as is usual in Neanderthal skulls." And in his preliminary report on the Ehringsdorf (1925) cranium, F. Weidenreich shows us a specimen with even better developed frontal region, and a vault of good height.

But the most instructive, though most neglected, specimens are the crania of Spy, Belgium. Here the student is confronted with a find in the same terrace and deposits, at the same level, and but 6 feet apart, of two adult male skeletons from the later Mousterian time. One of these skeletons, No. 1, has a skull the vault of which is a replica of that of the Neanderthal cranium, with typically Neanderthal bones of the skeleton. But this same skull is associated with upper and lower jaw and teeth that may be duplicated to-day among the lower races. And the skull of the second skeleton is so superior in size, shape, height of the vault, and height of the forehead, to No. 1, that the morphological distance between the two is greater than that between No. 2 and some of the Aurignacian crania, such as the Most (Brüx) or Brno No. 1 (Brünn) specimens.

About the most distinguishing and important marks of difference of the typical Neanderthaler from later man, are, we may repeat, the flatness of his head, with low receding forehead and a peculiar protruding occiput: heavy, supraorbital torus; heavy, chinless jaw: and, as determined from intracranial casts, a low type of brain. It will be well to see how these characters stand the light of our present knowledge.

Lowness of the vault, low and receding forehead, and projecting occiput, all show in the series of the Neanderthal skulls known to-day a large range of gradation, the lower limits of which are well below, but the upper grades of which are well within, the range of variation of the same characters in later, and even present, man. There exists to-day a whole great stream of humanity, extending from Mongolia deep into America, which is characterized by low vault of the skull (see *Catal. Crania, U. S. Nat. Mus.*, Nos. 1 and 2: also *Bull.* 33, *B.A.E.*). Low foreheads are frequent in prehistoric America (see *Bull.* 33, *B.A.E.*, and *Proc. U. S. Nat. Mus.*, 1908, vol. xxxv, pp. 171–5). The pronounced Neanderthal occiput, such as shown by the La Chapelle, La Quina and La Ferrassie skulls, it would be difficult to fully match in later man, but on the one hand the character is not present or marked in all the Neanderthalers, while on the other hand there are decided approximations to it among recent skulls.

A heavy supraorbital torus, such as is common to the Neanderthal skulls, is not found in later man; but not all the Neanderthalers had the torus equally developed (*e.g.* Gibraltar), and, as has been pointed out by Huxley, Sergi, Stolyhwo, and others, there are later male skulls in which there is a marked approach to the torus. A whole series of specimens may be mentioned (Podkoumok, Brüx, Brno

No. 1, Predmost, Obercassel, Alcolea, Djebel-Fartas, two neolithic skulls at Warsaw, the neolithic miner from Strépy at Brussels, etc.) in which the feature is of a distinctly transitional character. Moreover, it is well known that, first, the torus is essentially a sexual (male) and adult feature: second, that a reduction of such characters is easier than that of those which are more deeply rooted; and third, that in the civilized man of to-day a continuance of such reduction is still perceptible. There is less difference in this respect between the Neanderthal and the skulls just mentioned than there is between these and the mean development of the ridges in the highly cultured man—or, for that matter, the ordinary African negro—of the present.

Heavy, large, and receding lower jaws, such as the La Chapelle and some of the Krapina specimens, are among the most striking characters of Neanderthal man. Jaws such as these are not known in later skulls. But with them we have within the Neanderthal group itself specimens very much more advanced morphologically toward the present human type, such as Spy No. 1, La Quina (1912), and the La Ferrassie. Even at Krapina itself some of the jaws are of a less primitive type than others. Let us add to this the various huge, nearly chinless, and even receding jaws that occur now and then in the Australian, Melanesian, Mongolian, American Eskimo, and Indian, and the picture loses much of its discontinuity. Much the same may be said also of the teeth. Teeth of primitive form—incisors, canines (*dents du chien*), molars—occur to this day (see *Am. J. Phys. Anthrop.*, 1922–4), while practically modern teeth may already be observed in Spy No. 1, and more or less also in other jaws of the Neanderthal group.

As to the bones of the skeleton, the conditions are quite as significant as those of the jaws and teeth. There are scales of gradation from forms that stand considerably apart from those of later man (as in Neanderthal, Spy, La Chapelle, Le Moustier) to forms that approach to, or merge with, the modern (many parts of the Krapina, La Ferrassie, La Quina skeletons). To which may be added a word about the brain.

The size and variation of the Neanderthal brain are comparable with those of the Aurignacian, and even the present primitive man. The idea that the Aurignacians were exceptional in this respect is, if due regard be given to the factor of stature, erroneous. The surface conformation of the brain, as shown by intracranial casts, is of a low type in the Gibraltar, La Chapelle, and other specimens. But this does not hold true of the Weimar or the Galilee brain. The intracranial cast of the Galilee skull shows, in the words of Sir Arthur Keith, that "in its mass and its markings it has reached at least to the level attained by individuals in living races—such as that represented to-day by the aborigines of Australia" (*Report on the Galilee Skull*, p. 106).

IV. RECAPITULATION.

In relation to what perhaps was its most important period, the Mousterian, Prehistory is found to have reached a position approaching dogmatism. But this

has only lead it into a blind alley, from which so far there has been found no exit, notwithstanding much speculation.

It has been decided, on the weight of a limited initial group of specimens, that Neanderthal man was a man of a different species: that he may possibly have originated from his European predecessors, but that, after a long period of existence and after having spread far and wide, he perished abruptly and completely, without leaving any progeny, on the approach of a superior species, the *Homo sapiens*.

This *H. sapiens* has been assumed to have come from elsewhere, possibly from Africa or Asia: or he was, somehow, cryptically, coeval from far back with the pre-Neanderthaler and the Neanderthaler, eventually to assert himself suddenly and completely, to take over the human burden. He comes on the stage in body and brain largely as he is to-day, and has, since the beginning of the Aurignacian, undergone but moderate alteration.

A whole line of the foremost workers in prehistory are seen to have become identified with these notions, which obliges every student to give them an earnest and respectful attention. But no notion or dogma can possibly reach the status of a fact before it has been proven to be such through full demonstration.

Owing to scarcity of material, such demonstration has hitherto been impossible: but the more the material remains of early man accumulate and are better understood, the more it is sensed that the whole Neanderthal question is in need of a revision.

If the given assumptions are true, then we are confronted by some strange major phenomena, viz. a long double line of human evolution, either in near-by or the same territories: a sudden extinction of one of the lines: and evolutionary sluggishness or pause in the other. The consideration of these hypotheses brings us into a maze of difficulties and contradictions.

They lead to an outright polygeny—which is undemonstrable and improbable: or they concede the evolution of *H. sapiens* from the same old stock that gave also *H. neanderthalensis*, but deny the possibility of such evolution from Neanderthal man later on: they give us *H. sapiens*, without showing why, or how, and where he developed his superior make-up, and imply that, while he evidently developed much more rapidly at first to reach the status of *H. sapiens*, he then slackened greatly to remain, from the beginning of the post-glacial to this day, at nearly the same evolutional level.

They place *H. sapiens* in Africa or Asia, without troubling to offer the evidence of his ancient dominion in those regions. Or, if he lived in Europe, coexisting with the Neanderthaler, where are his remains, and why did he not prevail sooner over his inferior cousin? His traces, it will be recalled, never, in Europe or elsewhere, precede or coexist with, but always follow, the Mousterian. And where are there any other examples of a sudden, complete extinction of a whole large group of humanity: or of any wholesale Aurignacian conquest: or of any superior mentality of the *early* Aurignacians? And where are, in fact, in anything like a sufficient number, the

undoubted skeletal remains of the early Aurignacians that could be used for comparison? Why did they, a new, superior species, strong and able enough to completely do away with the Neanderthaler, take over the poor Neanderthaler's caves and sites, and live in them exactly, except for technical differences in stone-chipping, as did their crude predecessors? And how shall we explain the anomalous fact of an invasion during the last ice encroachment, an unfavourable period, when man might be expected to move from, rather than into, such a territory?

Valid answers to these and other questions are as yet impossible. There is a need of much further exploration: of much further good fortune in locating additional skeletal remains of all periods, but particularly of the latest Mousterian and earliest Aurignacian: and of a new generation of able workers, well equipped, and unhampered by tradition.

The *indications*, for the present, seem, however, to be the following:—

(1) The Penck-Brückner conception of the Ice Age, as composed of four distinct periods of glaciation with three well-marked inter-glacial periods, does not harmonize with either the palæontological or the human evidence. Both these tend to show but one main inter-glacial interval, from which there is a gradual progression towards an irregular cold period, after which follows an irregular post-glacial. There is no warm fauna that would correspond to the assumed third (Riss-Würm) inter-glacial. And there is evident no substantial change, such as would necessarily be brought about by a marked alteration in climate, in man's housing and living habits from the Middle Mousterian to the Magdalenian cultural periods.

(2) The Mousterian or Neanderthal phase of man begins towards the end of the warm main inter-glacial. It is essentially the period of the cooling stage of the terminal main ice invasion, reaching to, and probably somewhat beyond, its culmination.

(3) During this period man is brought face to face with great changes of environment. He is gradually confronted with hard winters, which demand more shelter, more clothing, more food, more fire, and storage of provisions: there are changes in the fauna which call for new adaptations and developments in hunting; and there are growing discomforts with, it may be assumed, increasing respiratory and other diseases, that call for new efforts and seriously hinder the growth of the population.

(4) Such a major change in the principal environmental factors must inevitably have brought about, on the one hand, greater mental as well as physical exertion and, on the other hand, an intensification of natural selection, with the survival of only the more, and perishing of the less, fit. But greater sustained mental and physical exertion, where not over the normal limits, leads inevitably towards greater efficiency attended by further bodily and mental development, which, with the simultaneous elimination of the weak and less fit, are the very essentials of progressive evolution.

Strong evidence that a relatively rapid, progressive change, both mental and physical, was actually taking place during the Neanderthal period, is furnished by the great variability of the skeletal remains from this time.

(5) But such evolution would certainly differ from region to region, as the sum of the factors affecting man differed, reaching a more advanced grade where the conditions in general proved the most favourable: while to many of the less favoured groups disease, famine, and warfare would bring extinction. All these agencies are known to science to-day: only they acted with more freedom of old when social organization and mutual aid were at a low level.

(6) With these processes it is conceivable, it not inevitable, that, towards the height of the glacial invasion, the population decreased in numbers, and that the most fit or able-to-cope-with-the-conditions group or groups eventually alone survived, to carry on.

Here seems to be a relatively simple, natural explanation of the progressive evolution of Neanderthal man, and such evolution would inevitably carry his most advanced forms to those of primitive *H. sapiens*.

(7) The physical differences observable between Neanderthal and later man are essentially those of two categories, namely: (1) Reduction in musculature—that of the jaws as well as that of the body—with consequent changes in the teeth, jaws, face, and vault of the skull: and (2) Changes in the supraorbital torus, of the order known well to morphology as progressive infantilism. For both these categories of changes there are later parallelisms. Further reduction of teeth, jaws, and the

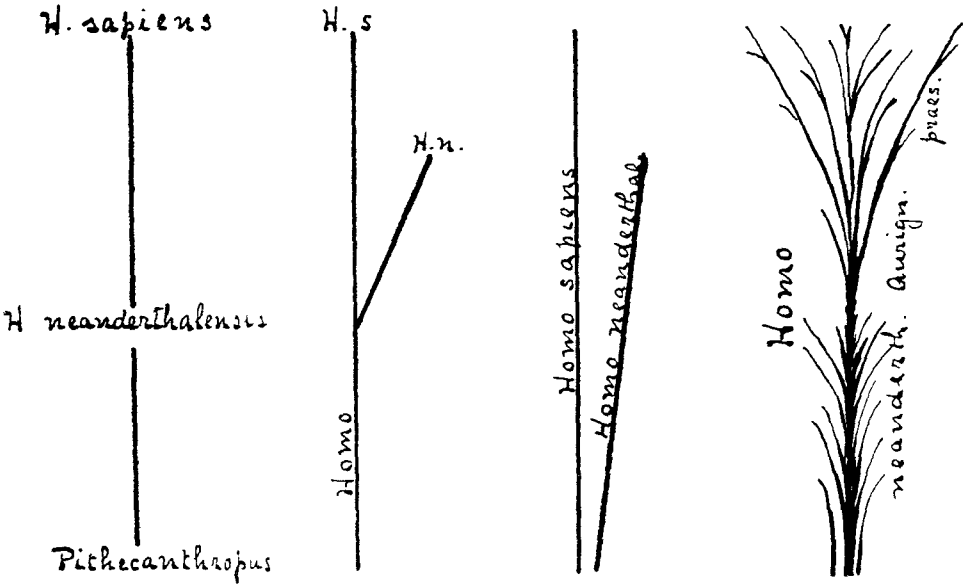


FIG. 5.—VARIOUS CONCEPTIONS AS TO THE PHYLOGENETIC RELATION OF NEANDERTHAL AND LATER MAN.

(Present evidence favours the view represented on the extreme right.)

facial bones has taken place since Magdalenian times, and is now going on in more highly civilized man, of whatever racial derivation: while infantilism is commonly accepted as an explanation of the differences of the negrillo from the negro, and for the greater average reduction of the supraorbital ridges in the negro than in the whites. It would be illogical to deny the probable instrumentality of these agencies in men of an earlier period.

(8) Anthropology is thus confronted with the following conditions:—

Neanderthal man is of a primitive physique, appears to have ended by a sudden and complete extinction, and to have been replaced by *H. sapiens*.

But there has been discovered no previous home of this *H. sapiens*, nor any remains whatsoever of his ancestors: and, if he coexisted with Neanderthal man, it is impossible to understand why he did not prevail sooner, or why he did not mix, or, above all, why he left no cultural remains of his existence.

On the other hand, this same Neanderthal man is now known to show wide morphological variation, leading in the direction of later man: and there are individuals among later men, even to this day, who show transitional features. This might be explained by an original common parentage of the two strains: or by an intermixture of the Neanderthal stock with the succeeding *H. sapiens*, or by a development, evolution, of the former into the latter.

(9) A critical examination of the known facts does not favour the assumption of a far-back common parentage and early Quaternary separation of *H. neanderthalensis* and *H. sapiens*, for lack of cultural evidence of *H. sapiens* and other great difficulties.

It is equally unable to favour a separate origin of the two stocks with subsequent hybridization, for again there is no evidence of the pre-Aurignacian whereabouts and the doings of *H. sapiens*, there is no trace of his ancestry, and knowing his and his descendants' characteristics, it is impossible, as said already by Karl Pearson, to conceive his origin without a Neanderthal-like stage of development.

There remains but the third alternative—which is the evolution of the Neanderthaler into later man. This proposition is not yet capable of conclusive demonstration. There is not yet enough material to decide it one way or the other. But the thoroughly sifted indications appear to the speaker to favour this assumption.

The great current need of prehistory, it may be accentuated once again, is more exploration and more good fortune in discoveries. Meanwhile there appears to be less justification in the conception of a Neanderthal *species* than there would be in that of a Neanderthal *phase* of Man.[1]

[1] The detailed evidence of the new Gibraltar skull and brain cast, just submitted to the Royal Anthropological Institute (November 1st, 1927), goes far to support this assumption.

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FIG. 1.—MOST (BRÜX) *(after Hanel)*.



FIG. 2.—PODKOUMOK *(after Saller)*.

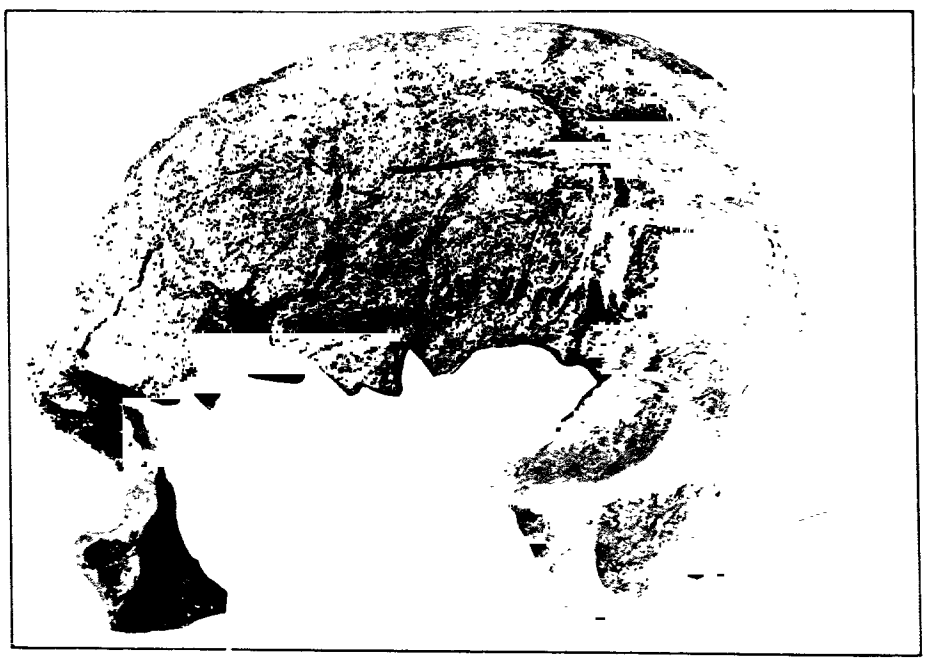


FIG. 3.—BRNO (BRÜNN).

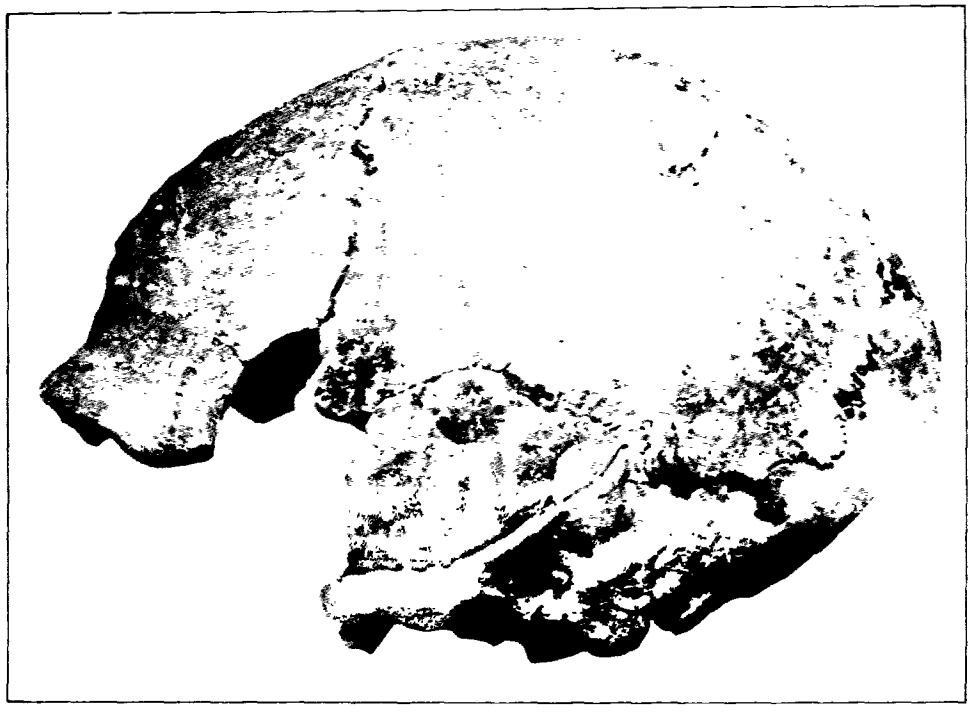


FIG. 1.—SPY (*after Fraipont and Lohest*).

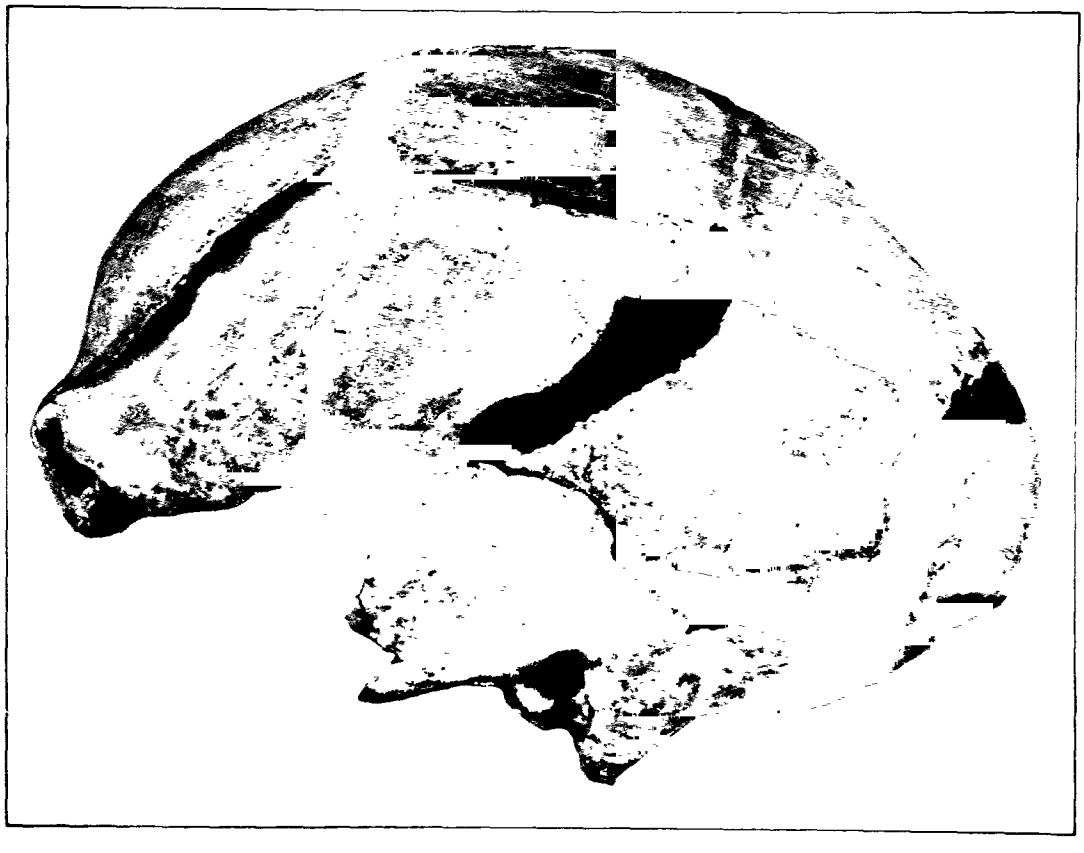


FIG. 2.—EHRINGSDORF, 1925 (*after Weidenreich*).

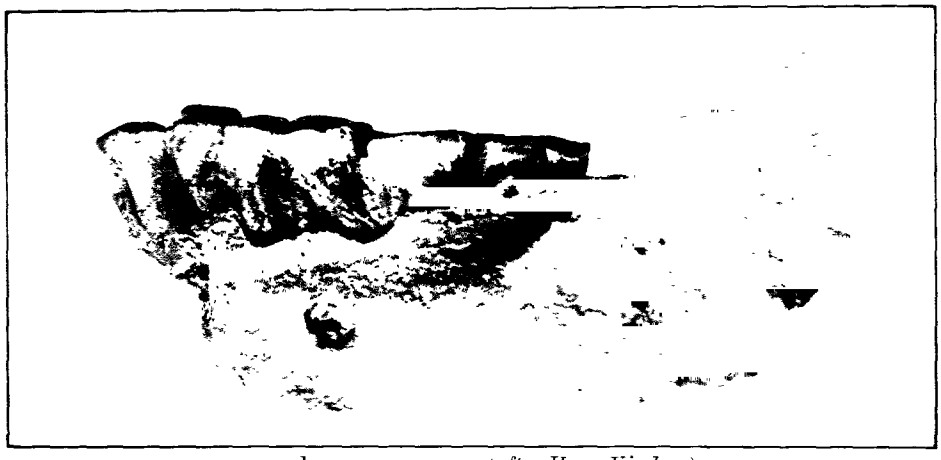


FIG. 1.—EHRINGSDORF (*after Hans Virchow*)

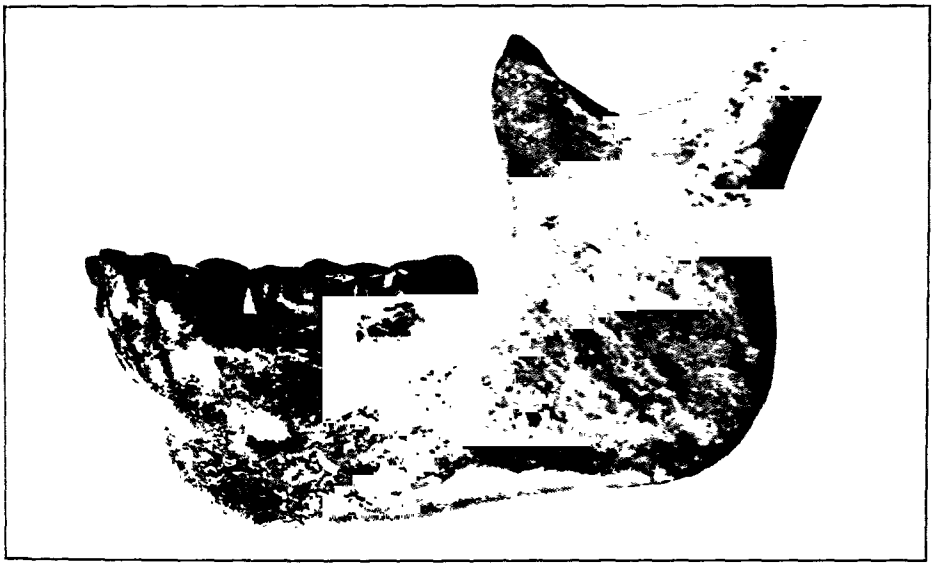


FIG. 2.—AUSTRALIA (*U. S. Nat. Mus.*).

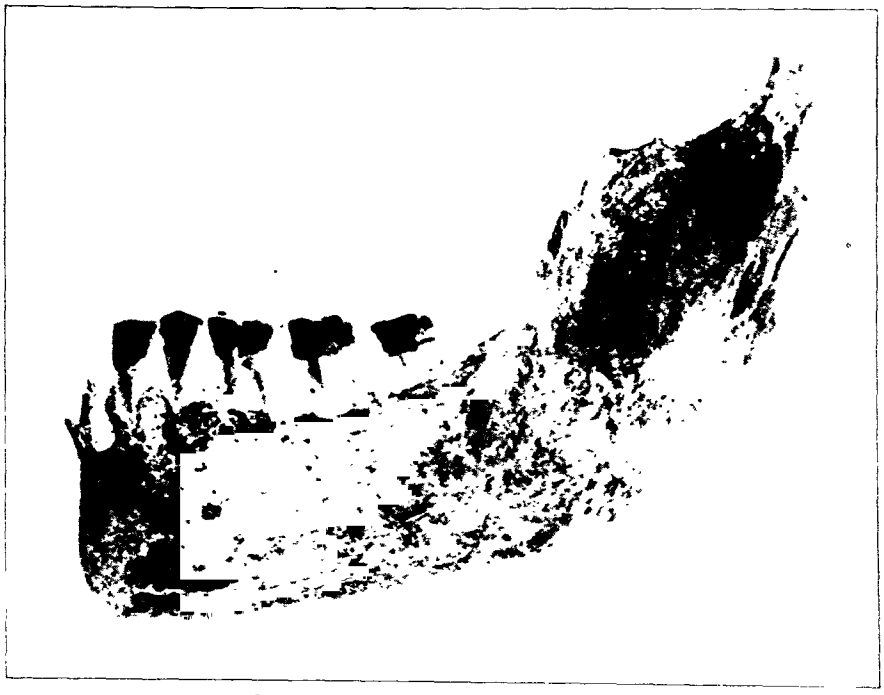


FIG. 3.—LA QUINA (1912) (*after Henri Martin*).

THE NEANDERTHAL PHASE OF MAN.



PIEGAN SKULL (*U. S. Nat. Mus.*

THE NEANDERTHAL PHASE OF MAN.

ETHNOLOGICAL NOTES ON THE SHUWALBE GROUP OF THE BORRORO FULANI IN THE KURAFI DISTRICT OF KEFFI EMIRATE, NORTHERN NIGERIA.

By Capt. J. R. Wilson-Haffenden, A.D.O.

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I.—Introductory.

The information contained in the following notes was obtained by me from the elders of a small group of nomad cattle-owners who had this year (1926) established their wet-season camp near Kurafi in Keffi Emirate, Benue Province. They described themselves as belonging to the Shuwalbe group of Fulani, and stated that they had in previous years pastured their cattle in Kano and Bornu. There, no doubt, they would have come in contact with Wangarawa and Beriberi, the members of which tribes, as mentioned in these notes, are comrades-in-sport with the Shuwalbe.

As regards the physical appearance of my informants, the description given by E. D. Morel in his *Affairs of West Africa* is applicable. He refers to "the straight-nosed, straight-haired, relatively thin-lipped, wiry, copper-or-bronze-complexioned Fulani male with his well-developed cranium and refined extremities: and the

Fulani woman with her fair skin, rounded breasts, large eyes, antimony-dyed eyebrows, gracefulness of movement, beauty of form, coquettish ways, and general attractiveness."

Their dwellings are of the usual grass-and-stick shelter type, of beehive shape, from about ten to twenty huts forming an average sized camp (*ruga*).

The cattle enclosures consist of a fence (*zariba*) of thorns, into which the cattle are herded at night as a protection against wild animals.

The chief staple food of the Shuwalbe is milk, but my informants denied the existence of any milking rites.

II.—Legends of Origin and of the Origin of Cattle.

The Shuwalbe have a tradition of descent from the union of a water-spirit—name forgotten—with an earthly ancestress named Bajemongo, the story being as follows:—

In the days of the prophet Mohammed there lived at Mecca a certain Yakubu, of whom it was prophesied that he would become the progenitor of a race who would not understand Arabic. Fearing the fulfilment of the prophecy, Yakubu fled from Arabia with his wife Bajemongo, at that time pregnant, and his younger brother to Melle. There Bajemongo gave birth first to a daughter, who remained dumb for three years, and afterwards to a male child. One day, when Bajemongo was outside her house washing, the male child started to cry, whereupon his sister, who had hitherto been regarded as dumb, went up to him and soothed his cries, speaking in a language (Fulani) understood by the boy but not by Bajemongo, but which she subsequently learned meant "Be quiet! Your mother will soon return to comfort you." Both Bajemongo and Yakubu perceived the prophecy had come true, and Yakubu decided that it was incumbent on him to return to Mecca. Before he left, Yakubu gave Bajemongo permission to remarry, but cautioned her to marry no one but a modest man, a modest man being defined as one who should pass below her in the street (she being stationed on the flat roof of her house) on the way to relieve nature, and who should squat for that purpose in a place not visible to her from her roof, all who were so immodest as to squat within her view being ineligible.

The only man who fulfilled this condition was Yakubu's younger brother. Soon after Yakubu's departure, news of his death on the road was received, and Bajemongo then married his younger brother, by whom she had two more male sons who spoke only Fulani. Soon after the birth of her last son, Bajemongo's husband said he must leave her to visit the grave of Yakubu. After his departure, she was washing herself one day close to a river near Melle, when a man came out from the depths of the river and seized and ravished her. She conceived and bore a son. The same thing happened a second time, and she bore a second son. The appearance of the father of these two sons is described as white-skinned like a European, and having

the sides of the face and upper lip covered with hair as well as having a beard. The hair of the head was long, falling over the shoulders, and was slightly curly.

The two sons of the river-spirit were given a bad time by the other sons of Bajemongo, being derided for not having a father who had either named them or given them riches. Bajemongo appealed at the river-side to have this state of affairs remedied, and as a result the water-spirit appeared in public and named the children, and later brought out 22 cattle (20 cows and 2 bulls) and 2 male slaves and 2 female slaves from the river and divided them equally among the two boys.

The cattle are said to have been brought out in the following order :—

(1) Black (*baleji*), given to the elder brother.
(2) White (*gudali*), given to the younger brother.
(3) Red (*budeji*), given to the elder brother.
(4) Black and white (*bunaji*), given to the younger brother.
(5) White and red (*shagiri*), given to the elder brother.
(6) Hartebeest colour cattle (*yelaji*), given to the younger brother.

The above is given as the account of the origin of cattle among the Borroro Fulani, whose progenitors the two sons of the water-spirit were.

Their four half-brothers were the ancestors of the (settled) Fulani. The latter intermarried freely with the Melle women : but not so the Borroros, who are regarded by Shuwalbe tradition as having remained practically endogamous from the time of Bajemongo to the present day.

III.—Religious Beliefs.

In addition to a belief in The Supreme God (*Jomirau*), there is a belief in spirits (*ginaji*), but I was unable to obtain any information regarding the names of, or beliefs regarding, any specific spirits.

The superstition, which does not seem to be universally credited, regarding a serpent-rainbow god named Gajimare, is referred to under the next heading.

IV.– Animal and Plant Observances and Taboos.

I could not find that any strictly totemistic beliefs existed among the Shuwalbe at the present day, but I elicited a variety of information regarding practices connected with animals and plants, some of which may represent survivals of former totemistic practices, which are detailed below :—

(1) *Serpents.*—The Shuwalbe will not kill serpents, except in self-defence, nor will they eat their flesh. The reverse applies in the case of the Keffi Yegomawa (settled) Fulani, who regard the flesh of pythons and puff-adders as a delicacy.

I could not find that the Shuwalbe consciously regarded serpents as the embodiment of the souls of ancestors, but there is a belief in the existence of certain sacred

snakes who are regarded as the incarnation of the rainbow god named Gajimare. None of my informants admitted to having seen any of these sacred snakes, for the reason that only the privileged few had the power (by means of a magic formula) of causing the sacred snakes to appear to them. The sacred snakes are believed to live in holes in the ground (*e.g.* ant holes), and to have a crested head which shines like a lamp in the dark. The snakes are sought by their devotees at night, and once contact is established with them they are regularly fed by their worshippers with milk. If well looked after, they are said to follow their feeder from camp to camp. The snake-spirit (Gajimare) is credited with the power of causing great and rapid increase of cattle.

(2) *Monkeys.*—Monkeys are not eaten, but the Shuwalbe do not object to uttering the Fulani word for monkey (*wandu*). The Galeji Fulani, however, are said to avoid applying the word *wandu* to a monkey, using a descriptive phrase instead ("*Yangoro*"), meaning "the one who climbs."

(3) *Wart-hogs.*—The Shuwalbe refrain from killing wart-hogs, but they do not object to uttering the Fulani word for wart-hog (*anderi*). The Galeji Fulani, on the other hand, are said to avoid applying the word *anderi* to a wart-hog, but to refer to it by a descriptive epithet ("*Nyamaya lopi*"), meaning "mud-eater," instead.

(4) *Hares.*—The Shuwalbe refrain from killing or eating hares, whom they seem to regard as a sort of protector, but they do not object to uttering the Fulani word for hare (*wajere*). The Keffi Yegomawa (settled) Fulani, however, avoid applying the word *wajere* to a hare, the utterance of which they consider would somehow bring about disastrous results. They refer to it as "the king of the cattle spoor" ("*Jaurolabi*") instead.

(5) *Goats.*—The majority of the Shuwalbe will not eat goat-flesh: the reason assigned is that it would cause leprosy. The Keffi (settled) Fulani, on the other hand, eat goat-flesh.

(6) *Sheep.*—Sheep are eaten.

(7) *Frogs.*—Frogs are not killed. The reason assigned is, that if a man killed a frog, his hand would immediately swell up.

(8) *Crocodiles.*—There is no objection to eating crocodiles, if opportunity occurs. There is a belief in a magic medicine possessed by some which, if placed on the bank of a river, will appease the crocodiles living therein, and enable the cattle to pass over in safety, thus rendering the killing of the crocodiles unnecessary.

(9) *Vultures.*—Vultures are not killed. He who killed a vulture would, it is believed, be seriously harmed by the spirit of the dead bird. The reason assigned is, that the vultures render great assistance to the cattle-owners by devouring the after-births of the cows.

(10) *Crown Birds.*—Crown birds are not killed. The reason assigned is, that crown birds sometimes form up into lines in the sand and perform evolutions in pairs, which manœuvres bear a fancied resemblance to Fulani youths engaged in their

own games (*e.g.* in the "*Wasan shero*"), on account of which they refer to crown birds as their relations.

(11) *Dogs.*—Dogs are not regarded as unclean and are not eaten. They are sometimes kept about the house, but are not allowed to roam about among the cattle, on the ground that the cattle, if they became accustomed to the presence of dogs, would mistake hyenas by night for dogs and refrain from chasing them away from the calves.

(12) *Cats.*—The keeping of cats as pets is not favoured. They are regarded by women as a bad omen, since they are credited with being only attracted to barren women, they having an aversion to children. They are not eaten.

(13) *Monitors.*—The killing of monitors is regarded as definitely unlucky and a thing to be avoided. It is said, however, that the Dundumawa and Rehazawa Fulani have no objection to killing monitors.

(14) *Leopards and Hyenas.*—Leopards and hyenas are killed as enemies. Apparently no purificatory rites are necessary after killing these animals.

(15) *Lions.*—Lions are regarded as good or bad omens, according to whether (1) they drag their cattle victim to a considerable distance away before devouring it, or (2) leave their victim close to the herd.

In the first case, the lion would be considered to have given an haruspic indication that the herd from which he had selected a victim would increase to such an extent as to reach the spot where the lion left his victim. In such a case, if the lion came again another night, no attempt would be made to kill it. In the alternative case, already referred to, in which it would be taken as a bad omen, an attempt would be made to kill the lion on the second occasion.

One of my informants told me that he had last year in Nasarawa met with a lion of the "good omen" sort, and in consequence his herds had actually multiplied considerably.

(16) *Camels.*—Custom forbids pregnant women to eat the flesh of camels. The reason given is that a breach of this taboo would cause a woman to remain pregnant for twelve months before giving birth. The Keffi Yegomawa (settled) Fulani assign as the reason for a similar prohibition that a breach would lead to the child born either having a hump-back or a large neck.

(17) *Fowls.*—Custom forbids pregnant women to eat fowls, the reason assigned being that the influence of the fowl's throat would cause any child born to have palpitation of the breasts. The Keffi Yegomawa Fulani give as their reason for a like custom, that the eating of fowls would cause the expectant mother to become fat and interfere with delivery.

(18) *Eggs.*—The Shuwalbe allow women young and old, pregnant or not, to eat eggs. The Keffi Yegomawa, however, forbid eggs to young women, on the ground that it would render them barren.

(19) *Swine.*—Swine are neither kept nor eaten.

(20) The *Shea-butter* tree ("*Kadanga*") alone among trees may not be cut, and Shuwalbe parents would punish their children if caught doing so, the reason assigned being that the sap of the tree is likened to cow's milk. They have no objection, however, to cutting the Meni oil-tree ("*Namijin kadai*").

V.—Seasonal Festivals and Sacrifices.

(1) *Festivals.*

The two main festivals observed by the Shuwalbe appear to be the Gani festival held in the Fulfuldo month of Gani, and the New Year festival held in the month of Haram Harandero. At these festival times, in addition to the dances and feasting, etc., peculiar to the festival, "*shero*"[1] contests and boxing displays often take place.

(a) *Gani Festival.*

This festival lasts for a month, during which dances are held in which chiefly the young persons of the tribe of both sexes (under or less than one year above the age of puberty) participate.

The singing of lewd songs by both sexes at members of the opposite sex is said to be a feature of the proceedings.

Licence between the young persons is tolerated during the whole of the month of the festival within the limits referred to under head "Sexual Licence" elsewhere in the report.

(b) *New Year Festival.*

A feast is held on the night of New Year's Eve, and it is customary to leave the remains of the supper outside on the ground, the reason assigned being that children playing late at night might like to eat up the remains before turning into bed.

Since the custom of leaving out the remains of a meal seems to be confined to this one day of the year, it seems possible that the custom may be analogous in origin to that of the Bretons, who leave the remains of the All-Souls' supper on the table for the ghosts of the dead kinsfolk to partake of.

On the night of New Year's Eve, it is the custom for those relatives who stand to each other in the relationship of comrades-in-sport (the relationship is described elsewhere in the report (*see* Sec. VII. (7) (b)), to make fun of each other and play practical jokes on each other in much the same way as is done in Europe on April Fools' day.

(2) *Sacrifices.*

Among the Shuwalbe two main occasions for the public sacrifice of cattle present themselves during the year, the first being the occasion of the annual leaving of their

[1] At a "*shero*" ceremony Fulani youths voluntarily undergo severe thrashings at the hands of their age-mates, in order to demonstrate publicly their manly qualities of courage and endurance.

wet-season quarters to set off on their dry-season wanderings, and the second being on their settling down for the wet season in a new camp at the conclusion of the dry season.

The former ceremony is usually carried out by the *ruga* head on a Friday, since Saturday is the day most favoured for setting off on a journey.

Black cattle are selected, if available, for sacrifice, because tradition has it that the first cattle miraculously given to their ancestors by their ancestor water-spirit were black, and that the blood of these first animals still flows in black cattle, the shedding of whose blood is consequently regarded as a more fitting sacrifice to the Supreme Power than that of any other kind. The animal to be sacrificed is slaughtered close to the place where the fire is lit each evening to warm the cattle just before dawn, in order that the remaining cattle of the herd, when they return to the spot in the evening, may lie down on the blood-stained ground and absorb the beneficial properties of the blood of the sacrifice by physical contact with it. The flesh of the sacrifice is divided up among, and eaten by, all the members of the *ruga*.

It is considered sacrilegious to dispose of black cattle in any other way than in the course of such sacrificial rites.

VI.—Social Ceremonies.

(1) *Initiation.*

(a) *Boys.*

Boys are circumcised in batches at the age of six or seven. Each batch of circumcised youths live together in shelters outside the *ruga* until their wounds are healed, their food being brought out to the camp by their parents and left outside it for the youths to collect. The moral instruction of the youths during the period of boyhood is in the hands of their father, and not, as in the case of the Keffi Yegomawa (settled) Fulani, in the hands of their uncle.

(b) *Girls.*

Cliterodectomy is not practised. The moral instruction of girls during the period of maidenhood is in the hands of their mother and not, as in the case of the Keffi Yegomawa Fulani, in the hands of their aunt.

(2) *Betrothal.*

There is no marriage ceremony in the ordinary sense of the word among the Shuwalbe. What is called a marriage ceremony is rather in the nature of a betrothal, as it usually takes place during the infancy of the parties. There is, however, no subsequent ceremony prior to the commencement of cohabitation.

The betrothal ceremony, in the case of a first marriage, is not of a complicated character. The parties themselves play no part, nor is the actual father or mother of either party present. All the available other relatives of both parties, male and female, however, and their friends attend. The ceremony consists in the presentation by a brother of the bridegroom of two castrated bullocks (of any colour) to a brother of the bride, who kills them and divides the flesh among the guests, who consume it all at the sitting, including the hide. The officiating relative of the bridegroom testifies to the covenant now established between the parties, to which testification the officiating relative of the bride bears confirmatory testimony.

A father arranges the marriage of his own children, not (as, *e.g.* among the Keffi Yegoma wa Fulani) the father's brother. The presents payable on the occasion of the betrothal ceremony also are provided by the father. The father's brother often assists the father in the matter of these presents, but custom does not oblige him to do so (as it does, *e.g.* among the Keffi Yegomawa Fulani).

(3) *Consummation of Marriage.*

About a year before the bride reaches marriageable age, a representative of the bridegroom presents his compliments to the guardian of the bride and formally requests the handing over of the bride. This formality is repeated about a month before the bride reaches marriageable age, and, on the second occasion, the day on which the bride will be prepared to leave the household will be appointed. The younger sister of the bridegroom (or younger female, father's brother's or father's sister's child) performs the duty of calling for the bride on the appointed day in the evening, escorting her by night to the dwelling of her husband and placing her in the shelter allotted for her dwelling. It would be considered extremely immodest for the bridegroom to be present at his camp on her arrival, so that the night she is due to arrive he absents himself, passing about four days and nights in a neighbouring camp. The bride during this period helps in the field and domestic work allotted to women among her new relatives. On the fifth day the bridegroom appears to greet his bride, but custom demands that he should continue to adopt a reserved attitude towards her for a period of about two months, until the end of which period he may not enter her hut or sleep with her.

Each wife has a separate hut.

(4) *Birth.*

Shuwalbe custom requires that a pregnant wife should return to her parents' home about the fourth month of her pregnancy, give birth there, and stay there for about three years after giving birth, during the whole of which time she will not be visited by her husband. It will be apparent, however, in this connection, that under a system whereby patrilineal cross-cousins marry each other, the separated

parties will often not be at a great distance from each other and will be constantly meeting each other's relatives.

(5) *Infanticide.*

Infanticide is said never to be practised, even in the case of bastards. Even the drinking of medicine or the use of other means to procure abortion is looked on with horror, the traditional reason assigned being that a great King or Leader might grow up from however humble an origin, and to risk smothering a valuable life at its outset is a crime.

Bastards, far from being killed at birth, are, it is said, usually cheerfully adopted either by one of their parents or by rich men, the bar sinister not acting as any impediment to their social advancement.

This view is in striking contrast to that of the Keffi Yegomawa Fulani, who consider it the natural thing to try and abort unwanted children.

(6) *Twins.*

Twins are regarded with favour. They are both named on the same day, and, if possible, married on the same day. The beasts sacrificed on these occasions must be of the same colour.

(7) *Child-naming.*

The naming ceremony takes place at the house of the mother of the child to be named seven days after birth. Modesty forbids the presence of the mother's father at the ceremony if the child being named is his first grandchild, but the taboo is usually relaxed in the case of subsequent grandchildren. The mother's mother and all her relatives, all the relatives of the father of the child (but not the father himself), and all the relatives of the mother's father may be present, and their friends. Shuwalbe custom, however, forbids the presence of any of the age-mates of either the mother or the father of the child. The opposite, however, applies in the case of the Keffi Yegomawa (settled) Fulani, where the age-mates of the child's parents are the principal guests at the naming ceremony.

There are no name-day anniversary ceremonies.

At the naming ceremony, two castrated bullocks are slaughtered, supplied by the husband's relatives, for a first child or one for a second child. The assembled guests partake thereof and then disperse. Formerly no dancing or drumming took place on such an occasion, but the practice of turning a naming-day ceremony into a scene of revelry is gradually creeping in, due to the influence of the customs of the Shuwalbe's settled neighbours.

A child is very frequently called after its grandfather, for it is believed that old men are reincarnated in the form of their grandchildren.

After the period of matrilocal residence following birth is over, the wife and her child are escorted back to her husband's residence by her relatives (but not including either her mother or father) together with presents.

The husband's relatives await her arrival at their camp.

(8) *Death Observances.*

The Shuwalbe custom is, if a male dies, to bury him in front of the cattle resting-place in the camp, facing the cattle he used to tend during life. The cattle resting-place is normally west of the dwelling-huts of the camp, any other direction being regarded as unlucky, so that the body will be buried in the extreme west of the camp, facing east. Women, conversely, are buried in the extreme east of the camp, near to the dwelling-huts, to look after which was one of their chief pre-occupations during life.

If a person, either male or female, dies on a Wednesday, it is customary to bury either a live fowl or a new-grown and unopened calabash in the grave, to avert evil befalling the deceased.

After the occurrence of a death the corpse is buried as soon as possible. All available male and female relatives and neighbours of the deceased collect and wail around the corpse for an hour or so before consigning it to the grave. The attitude adopted by the mourners when wailing is a standing position, both hands placed either on the nape or crown of the head. There are usually no sacrifices offered in connection with a burial ceremony.

VII.—Social Organization.

(1) *Regulations of Marriage among the Shuwalbe.*

(a) *Endogamy.*

There is a strong sentiment in favour of endogamous marriages among the Shuwalbe. This, of course, does not prevent a certain number of individuals marrying outside the group, but, with the undermentioned exceptions, marriage outside the group is viewed with definite disfavour. The exceptions are as follows: -

1.—No disgrace attaches to a Shuwalbe woman marrying a Beriberi man, the reason given being that the Beriberi were at one time the protectors of the Fulani when they were in Bornu, and during that period a certain Shehu of Bornu married as his first wife a Fulani woman. A Shuwalbe woman will, however, in such circumstances, be liable to good-natured chaff from her relatives, who will say, "You have now elected to return to the former status of the Shuwalbe as slaves of the Beriberi, have you?" It is an understood thing that if a Shuwalbe woman obtains a divorce from a Beriberi husband, he will not be entitled to the return of the bride-price.

It is not considered a fitting thing, however, for a Shuwalbe man to marry a Beriberi woman.

The Beriberi are comrades-in-sport with the Shuwalbe, but, on the other hand, so are the Wangarawa, between whom and the Shuwalbe marriages are not favoured.

2.—Marriages between one group of Borroro Fulani and another (*e.g.* between a Shuwalbe and a member of the Rehazawa, Dundumawa, Bodi, or Jandakwae) are not considered shameful, but are not favoured.

Marriages between the Shuwalbe and the town Fulani, on the other hand, are looked on with disfavour, on the ground that since the latter put the love of fine clothing and town luxuries before the love of cattle, the infiltration of such ideas among the exclusively cattle-loving groups through the agency of mixed marriages might tend to wean the minds of the weak-minded away from the practice of the time-honoured customs of their forefathers.

3.—(a) In the exceptional case where a very rich *mai-ruga* has grown old and is childless, although married to women of his own race, public opinion allows him to marry a woman of a neighbouring tribe in the hopes of raising up seed to succeed to his property, but this would not usually be done without first obtaining the permission of the local chief priest (*Gamaji*) of the group.

In connection with the subject of group-exclusiveness among the Borroro, the Shuwalbe claim to have maintained their tradition of endogamous marriage more strictly than some other groups of Borroro.

Thus it is said that the Shuwalbe never adopted the practice of keeping slave concubines, nor did they ever allow their slaves to inherit the wives or property of their masters, which it is said the Dundumawa allowed.

With the same object of keeping the blood of the group pure, it is said, they did not and do not practise adoption outside the tribe. The strongly individualistic tone of Shuwalbe family life, of course, renders adoption unusual within the tribe.

That the sentiment in favour of endogamous marriage is often confined to a far smaller area than the group, is shown by the reason given for the fact that even the richest *masu-ruga* rarely have more than three or four wives (and no concubines), which is, that whereas a man may find a wife or two from among his patrilineal cousins or second cousins, he is faced with some difficulty in finding a larger number of wives from within his own restricted kindred; and, so strong is the desire to maintain the solidarity of the kindred and to keep the family property within it, that even rich men will prefer to content themselves with a small number of wives than marry outside their consanguine or uterine kindreds.

(b) *Levirate Marriage.*

A man normally inherits the wives of his elder brother, but marriage with the wives of a deceased younger brother is prohibited.

(c) *Sororate Marriage.*

Sororate marriage is permitted in the sense that, on the death of a wife who has been on good terms with her husband, her relatives will usually agree that her younger

sister, if unmarried, should marry the bereaved husband. Marriage with a deceased wife's elder sister, however, is not allowed.

(d) *Cousin Marriage.*

The most favoured type of marriage among the Shuwalbe is that of patrilineal cross-cousins. Next in favour comes marriage between patrilineal ortho-cousins.

That form of cross-cousin marriage by which a man marries the daughter of his mother's brother, although not forbidden, is definitely looked on with disfavour as it tends to destroy the solidarity of the patrilineal group which marriage with the daughter of the father's sister or father's brother tends, on the other hand, to cement. In this they differ from the Keffi Yegomawa Fulani, among whom the "best marriage" for a man is considered to be one with his mother's brother's daughter.

(e) *Granddaughter Marriage*

Is not practised by the Shuwalbe, being regarded as incestuous, which idea is contrary to the view of the Keffi Yegomawa Fulani, who allow this type of marriage.

There are two well-known members of the Keffi ruling family in Keffi at present who are married to, and have children by, their granddaughters, which offspring are thus at the same time both their children and their great-grandchildren.

(2) *Authority Over Children.*

The custody of children and the prerogative of punishing them are in the hands of their actual father, and not (as, *e.g.* among the Keffi Yegomawa Fulani) in the hands of the father's brother. An uncle may on occasion take it upon himself to correct his brother's children, but his continual interference would not be tolerated. Interference with children by the mother's relatives is not allowed.

As regards intimacy between uncles and nephews, a youth may expect much petting and receiving of presents from his father's brother, but not from his mother's brother, the Shuwalbe going on the principle that, as their sister's son does not owe him personally any direct allegiance, he won't go out of his way to help him, and therefore he may as well be ignored.

The Keffi Yegomawa Fulani, on the other hand, make a greater fuss of their sister's son than of their brother's son, on the ground that, as the sister's son won't receive any inheritance from his mother's brother, the latter may as well pet the child and give it presents, as it were, in compensation.

(3) *Divorce.*

A bride who has been affianced may, at any time before she leaves her parents' house, exercise the right of refusal, in which case the party marrying her after such refusal has to make compensation to the relatives of the suitor who originally bore

the cost of the cattle slaughtered at the betrothal ceremony, in addition to paying the relatives of his fiancée a bride-price in cattle. In such cases it is said that a disappointed fiancée will usually regard it as dishonourable to accept the compensation offered, and will hand over the proffered compensation to his former bride's relatives.

It is said that aspirants to the hand of divorcées (whether or not they have reached the point of leaving their parents' for their husband's dwellings, or whether or not they have borne children) are almost invariably made to pay a relatively high bride-price (*e.g.* from seven to twelve head of cattle may be demanded), the custom being designed—it is said—to deter potential wife-stealers from seeking the hand of girls already affianced or married, by making it so much cheaper for them to marry virgins, the marriage of which involves but the cost of two head of cattle to be slaughtered on the betrothal day.

After a woman has been divorced, whether before or after the commencement of cohabitation with her husband, there is no period of purification to be undergone before remarriage.

(4) *Adultery.*

Adulterous intercourse with a married woman other than a fellow age-mate still within the years of childhood, is usually not condoned, and in former times often led to organized raids by the husband's group on the paramour's group. The husband received no blame from his own relatives if he killed the paramour, so that adultery sometimes resulted in a blood-feud.

(5) *Sexual Licence.*

Sexual relations between age-mates (married or not), however, are condoned, provided the parties are still within the years of childhood, which are regarded as terminating in the case of a girl about one year from the date of reaching marriageable age, or, roughly, from the date on which members of her age-class start to give birth. In the case of boys, their age when they enter an age-class (*i.e.* after circumcision) is about two years older than the girls regarded as their age-mates. From the above it follows that the first child of a newly married wife may quite often be the product of these relations and not the child of its legal father, especially since (as already mentioned) the early commencement of sexual relations between a newly arrived bride and her husband is regarded as bad form.

Further, that a young bride newly arrived in her husband's camp should several times run away and be returned by her parents, and several times be found consorting with her age-mates of the opposite sex (more especially on festal occasions such as the Gani festival on which occasions the husband is not allowed by custom to separate his young wife from her youthful adulterer), is said to be a normal feature of Shuwalbe early married life.

For a husband to decline to accept a child as his now, on the ground that he knew it to be the child of one of his age-mates, in the above circumstances, is said to be almost unknown: and for a husband to divorce his wife for known irregularities during her first year of marriage is also said to be rare.

The instability of the newly married life of young people among the Shuwalbe is said to be the reason for a large bride-price not being demanded, for were a large bride-price given, her parents and paramours might all be liable to be bothered by the husband for the payment of compensation.

With regard to the practice of permitting sexual licence, especially at certain festivals, between juvenile age-mates, referred to above, the range of licence, even as between such age-mates, is restricted, for the boy who plays with a girl of a senior age-class to himself will be liable to punishment for disrespect at the hands of the members of his senior age-class, and for rough-handling on account of such an offence he will have no redress.

Adult married women are not allowed licence with their age-mates, or with anyone else, but on the behaviour of adult males and adult unmarried women there are no strictly observed restrictions.

(6) *Inheritance.*

Formerly among the Shuwalbe it is said that the right to possess or inherit cattle was vested solely in males, women possessing and inheriting only chattels of a more personal nature, such as clothing and jewellery. At the present day, however, it is common to find female cattle-owners among the Shuwalbe.

A man or woman's property is customarily inherited by their own children, a boy inheriting from his father and a girl from her mother, the brothers or sisters of the deceased inheriting nothing if the deceased has left offspring.

Failing either children or grandchildren, the brothers or sisters or more remote relatives of the deceased inherit the property.

(7) *Associations.*

The principal types of associations among the Shuwalbe, other than those based on purely kinship factors, appear to be those of age-mates (*saoi*), and comrades-in-sport (*abokamen wasa*). The form of association between strangers, known as Blood-brotherhood appears to be unknown.

(a) *Age-Mates.*

Boys who have been circumcised at about the same time as each other are regarded as age-mates. Girls about two years younger than the boys of a given age-class are regarded as age-mates of the boys.

The limited licence allowed between age-mates of opposite sexes under certain circumstances has been referred to under the heading "Sexual Licence."

There is an interesting custom observed among the Shuwalbe between an age-mate and a fellow age-mate's wife, to which a custom analogous in some respects has been recorded among the cattle-owning Masai.

A married man, on being visited by a fellow age-mate, is expected by Shuwalbe etiquette to invite his visitor into the presence of his (the host's) wife with these words: "Behold your wife. She will bring you food." The host is then expected to leave his guest with his wife and retire to another hut, not returning until his guest has finished his meal in his wife's hut.

Contrary to what has been reported as the practice among the Masai, the words of the above invitation are not regarded by the Shuwalbe as constituting, or ever having constituted, an invitation to his guest to have relations with his wife, such a contingency being considered unthinkable in the circumstances.

(b) *Comrades-in-Sport.*

Comradeship-in-sport (*abotan wasa*), which, on the one hand, imposes an obligation of mutual aid and friendship on the parties, and, on the other hand, allows of considerable familiarity and practical joking between comrades (especially on the occasion of the New Year festival), often far beyond the limits of what would be tolerated from non-comrades, obtains among the Shuwalbe between a man and his following relatives:—

(1) His patrilineal grandparents.
(2) His patrilineal cross-cousins.
(3) His elder brother's wife.

There is also comradeship-in-sport to a more limited extent between a man and

(1) His matrilineal grandparents.
(2) His matrilineal cross-cousins.
(3) His wife's younger brother.
(4) His wife's younger sister's husband.
(5) Husband of a younger daughter (but not if the daughter is one of the three eldest children of the family).
(6) Wife of a younger son.

There is no comradeship-in-sport (contrary to the practice of some other tribes), however, between a man and

(1) His maternal uncle's wife, or
(2) His elder or younger sister's husband.

In addition to the above relatives, all members of the Shuwalbe group of Borroro Fulani are comrades-in-sport with all members of the following tribes or groups of tribes:—

(1) Beriberi.
(2) The Wangarawa.

The associations between the Shuwalbe and the above tribes lead to some peculiar observances, some of which seem worth recording below :—

(i) *Types of Sport allowed between Shuwalbe and Beriberi.*

A characteristic form of practical joke allowed to be practised by either a Beriberi man or woman on a Shuwalbe man or woman at the expense of the other, at any time of the year, is that, if either sees the other wearing a gown or cloth, any part of which has been burned, the comrade may seize the wearer and forcibly strip him or her of the cloth and hold it to ransom, not returning it until the wearer has assumed an attitude of humiliation and prayed for forgiveness, and paid a fine to his comrade of a small sum—say, sixpence.

Another form of practical joke which the Beriberi may perform at the expense of a Shuwalbe, but not vice versa, is that he may demand a small sum of money *kurdin shanu* from his Shuwalbe comrade during the last month of the old year, and if he meets a comrade who has not paid him his present by the last day of the year, he may rub the Shuwalbe's head in ashes as a jocular reminder of the fact, but by so doing he forfeits his claim to his present.

The fact that Shuwalbe women may marry Beriberi men, but not vice versa, has already been referred to.

(ii) *Types of Sport allowed between Shuwalbe and Wangarawa.*

A characteristic form of practical joke which may be perpetrated by a Wangarawa man or woman at the expense of a Shuwalbe man or woman, but not vice versa, is that the former will throw at the latter a large frog (*bududuje*), causing the Shuwalbe to start in fright. The Wangara will then pursue him and catch hold of him, not letting him go till he has paid a small sum as a ransom.

A Wangara woman, seeing a Shuwalbe woman place some property (say, a bowl of milk) on the ground, would be at liberty to seize it and confiscate it at any time of the year; or a Shuwalbe woman, on the other hand, would be free to deprive a Wangara woman of some piece of property of hers, say, a calabash of corn, and go off with it.

It is to be noted that the comradeship association between the Shuwalbe and Wangarawa does not extend to the permitting of marriage between them (as it does within certain limits in the case of the Beriberi), the reason assigned being that the Shuwalbe regard the Wangarawa as almost coming into the category of butchers, whose occupation is necessarily anathema to cattle herdsmen, who would rather die than make a practice of killing their cattle.

(8) *Notes on and Comparison of Terms of Address and Avoidances between certain Relatives obtaining among*—

(i) The Shuwalbe group of the Borroro Fulani pasturing at Kurafi, and

(ii) The Yegomawa group of the town Fulani settled at Keffi.

1.—*Between Father and Child.*

(a) *Shuwalbe.*—A child calls its father by his birth-name. A step-father or father's brother, however, would be called "*Babba.*"

A father will not call his first child by its name (and this prohibition usually extends to the first three children), nor will he utter the name of his child should it occur in some other connection, *e.g.* should a relative or neighbour have the same name, or the name be that of a day or a month, he will substitute some phrase for the tabooed word whenever it occurs in conversation.

(b) *Yegomawa.*—A child invariably calls his father "*Babba.*" A father calls his children, with the exception of the first child, by their birth-names. He may not call the first child by its name, and the prohibition often extends to the first three children.

The greater familiarity in the form of address used by the Shuwalbe is, perhaps, partly to be explained by the fact that a Shuwalbe father looks after his own children, whereas a Yegomawa father hands over his children to the care of his elder brother, or (if not available) to his younger brother, or some other relative, for their upbringing.

2.—*Between Mother and Child.*

(a) *Shuwalbe.*—A child usually addresses its mother as "*Inna,*" but the practice of addressing a mother by her birth-name or an abbreviation thereof is also fairly common. The practice of a parent not uttering the name of its firstborn children, already described in the case of the father, obtains also in the case of the mother.

(b) *Yegomawa.* Similar to Shuwalbe.

3.—*Elder and Younger Brothers and Sisters or Cousins.*

(a) *Shuwalbe.*—A younger brother or sister or cousin normally addresses an elder brother or sister or cousin by their birth-name, and vice versa.

(b) *Yegomawa.*—A younger brother or sister or cousin addresses an elder brother or sister or cousin as "*Yaya,*" and not by their birth-name. An elder brother or sister or cousin addresses a younger brother or sister or cousin by their birth-name, unless that brother or sister or cousin happens to have the same birth-name as one of the parents or a brother or sister of a parent, in which case they would be addressed by a similar term of respect as that used in addressing the elder relative.

4.—*Sister's Son's Wife (man speaking), and Husband's Mother's Brother.*

(a) *Shuwalbe.*—A man may not call his sister's son's wife by her name, and he will not eat in her presence, nor will he eat any food that has been cooked by her; and she may not stay in the same house with him.

Should she be so rash as to enter his presence, he may make of her a laughing-stock by addressing her as "wife of So-and-so" (mentioning the sister's son's name);

or, should he wish to speak respectfully to her, he would address her as "wife of my sister's son" ("*Debo badiran*").

A woman will address her husband's mother's brother by the same term as she uses in addressing her mother's brother (i.e. "*Kaiwa*").

(b) *Yegomawa.*—A man practises no peculiar avoidance in relation to his sister's son's wife. He addresses her by her birth-name, and has no objection to eating food prepared by her.

5.—*Husband and Wife.*

(a) *Shuwalbe.*—A husband does not normally address any of his wives by their birth-names, but by a title indicating "mother-of-the-house," "bride," or the like, or by a nickname. A wife, similarly, avoids addressing her husband by his birth-name.

Among the Shuwalbe, fellow-wives call each other by their birth-names, irrespective of seniority.

A first wife has no special authority over subsequent wives. A husband desiring to make a present of, say, food, to each of his wives, would make his presentations to each individually and not through the first wife to the others.

The Shuwalbe custom is for a husband to spend two nights with each wife in turn.

It is considered unmanly for a husband to eat his food in the presence of his wives, it being usual for the men to eat their food together in one part of the camp, and for the women, after preparing their men-folk's food and taking it to them, to do likewise in their own huts with their young children and other women-folk.

Each wife cooks every day for her husband, and he must partake of the food brought by each of his wives, otherwise displeasure would be inferred.

(b) *Yegomawa.*—As in the case of the Shuwalbe, both husband and wife avoid addressing their consorts by their birth-names.

Contrary to the usage of the Shuwalbe, however, junior wives among the Yegomawa have also to avoid calling senior wives by their birth-names. They have to address them by the same term of respect used to an elder sister ("*Yaga*").

The first wife has authority over subsequent wives, and a husband desiring to make a presentation of, say, food to each of his wives, would commonly give it to the first wife to distribute to the others.

The Yegomawa custom is for a husband to spend three nights with each wife in turn. Among them, however, it is not considered unmanly for a man to eat his meals in the presence of his wives; on the contrary, it is quite a common practice among them.

Each wife takes it in turn to cook her husband's food. The wife who prepares the food on a given day spends the night with her husband on that day.

6.—*Parents and Child's Wife or Child's Husband.*

(a) *Shuwalbe.*—A parent addresses an elder daughter's husband (*i.e.* a daughter whose birth-name the parent avoids using) as "boy" ("*Suka*"), avoiding the use of his name, but a younger daughter's husband is called by his birth-name.

Similarly a parent addresses an elder son's wife by a term meaning "boy's wife" ("*Roba sukabi*"), avoiding the use of her name, but a younger son's wife is called by her birth-name.

An elder son's wife is not expected to enter into the presence of, much less speak to, her husband's father. If she sees him on the road, she is expected to make a deviation in order to avoid meeting him.

(b) *Yegomawa.*—Parents address the wife or husband of an elder son or daughter in the same way, viz. by their birth-names.

7.—(i) *Wife's Elder Sister's Husband, and* (ii) *Husband's Elder Brother's Wife.*

(a) *Shuwalbe.*—Shuwalbe are addressed by their birth-names by (i) the husband and (ii) the wife, respectively.

(b) *Yegomawa.*—Yegomawa are addressed by the term of respect, "*Yaya*," and not by their birth-names.

8.—*Wife's Younger Brother, and Husband's Younger Sister.*

A curious usage common to both the Shuwalbe and Yegomawa is that a man is wont jocularly to address his wife's younger brother as "my wife" ("*Debaam*"), although it is a man that is being addressed. Also a woman is wont jocularly to address her husband's younger sister as "my husband" ("*Gorkam*"), although it is a woman that is being addressed.

9.—*Husband's Younger Brother, and Wife's Younger Sister.*

Among both the Shuwalbe and Yegomawa the terms of address applied to the above reflect the institutions of levirate and sororate marriage.

A woman addresses both her husband's younger brother and her elder sister's husband as "my husband" ("*Gorkam*").

A man similarly addresses both his wife's younger sister and his elder brother's wife as "my wife" ("*Debaam*").

REPORT ON THE BRITISH MUSEUM EXPEDITION TO BRITISH HONDURAS, 1927.

[With Plates X–XXI.]

By T. A. Joyce, M.A., J. Cooper Clark, and J. E. Thompson.

The main body of the Museum expedition left England on February 14th, and arrived at the site of Lubaantun on March 19th. It consisted of Mr. T. A. Joyce, of the British Museum, Mr. J. Cooper Clark, Mr. H. Calvert, and Mr. G. Laws (the last named attached to the expedition by the Royal Geographical Society for survey-work). The two other members, Mr. J. E. Thompson and Mr. A. M. Hannay (the latter of whom worked with the expedition in 1926), had reached the site some four weeks earlier, had cleared the bush which had sprung up again to a height of some 12 feet, erected a new camp on Platform VI, and commenced excavation at the megalithic terraces, and at a point in the hill-terraces to the north of Pyramid E (Fig. 1).

After some ten days, Mr. Joyce returned to Belize, leaving Mr. Clark in charge, and, with Dr. T. Gann, ascended the Belize River to El Cayo, in search of a ruined site recently reported to the south of Benque Viejo. This site, to which the name Minanhá was given, was located, and a preliminary survey was made. A little excavation was attempted, but lack of water and shortness of labour prevented any organized investigation on an adequate scale. But enough was accomplished to determine the fact that the site is large and important.

The Lubaantun party continued operations until the end of April.

It has not been easy to weld the various reports into an organized whole, and it is best to reproduce them in the form of separate sections. A certain amount of editing has been necessary, in order to avoid overlapping. Moreover, Mr. Thompson was obliged to return to America, after a very short stay in England. The excavation of Mound F and of the G complex, for which he was individually responsible, proved a very complicated matter, and his plan could not be rendered intelligible unless printed in several colours. This would involve an expense hardly justifiable at the moment, because the excavations are incomplete, and another season's work is necessary before a large number of doubtful points can be elucidated. Since his report on these particular excavations bears direct reference to his field-plan, some recasting has been necessary, but care has been taken to preserve all essential points. For all editing Mr. Joyce is responsible.

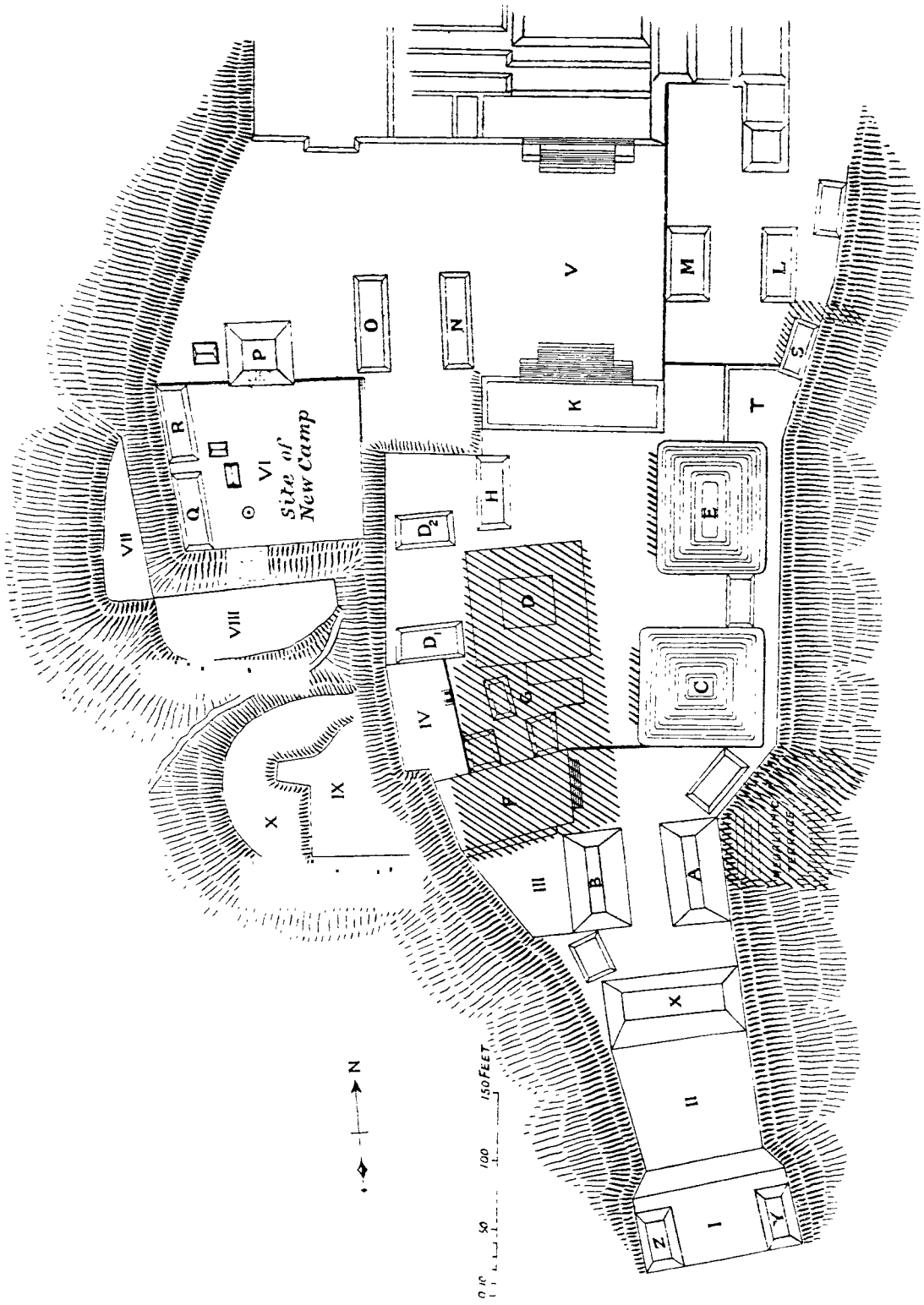


FIG. 1.—PLAN OF LUBAANTUN, SHOWING AREAS EXCAVATED IN 1927.

The Megalithic Terraces. (Pls. X and XI.)

(T. A. Joyce, *incorporating* J. E. Thompson's *report*.)

The excavation of the megalithic hill-terraces, discovered last year on the eastern side of the complex, immediately to the south of Pyramid C, was continued to the bottom of the hill-slope (Pl. X. Figs 1 and 2; Pl. XI. Fig. 2). The height-measurements of the terrace-walls are as follows:—

	Feet.	Inches.
Top terrace	5	3
Second terrace	4	3
Third terrace	13	0
Lowest terrace	7	6

The second terrace extends downwards some 3 feet below the level of the third, the megalithic blocks resting on a foundation-layer of two courses of smaller blocks, averaging 1 foot in length and 5 inches in depth. The terraces are built horizontally, while the creek-bed, from which they rise, drops regularly from north to south. At the point of excavation the lowest terrace starts from a point some 9 feet above the level of the valley, and diminishes northward, in order to conform to the slope of the valley. Abundant traces of stucco-facing occur on the large blocks of which these terraces are composed.

I suggested in my report of last year[1] that these terraces had been filled in before the two large Pyramids C and E were erected, and Mr. Thompson's subsequent excavations, after I had left the site, afford confirmation. Mr. Thompson writes:—

> "The top wall of the terrace was found to pass beneath the base of Pyramid C. In order to build Pyramid C, it was necessary to enlarge the base to the east beyond the megalithic terrace. This was accomplished by building out a recessed perpendicular wall (coated with stucco) at right angles to the top terrace, at a distance of some $13\frac{1}{2}$ feet in an easterly direction. At this point it turns north, parallel with the megalithic terrace, thus forming a base for the eastern side of Pyramid C. The megalithic terrace was picked up again opposite the space between Pyramids C and E, but further excavation north-east of E revealed no trace of it.
>
> "Pressure of work at other points did not allow of further excavation to locate the exact point at which the (megalithic) terrace ends. However, there are grounds for believing that the original hill had its greatest elevation where Pyramid E now stands, and that in all probability the top terrace merged in the hill-side at this point."

Mr. Thompson's comment on the architecture of these terraces is as follows:—

> "Despite the large size of many of the blocks, the megalithic terrace is a somewhat exaggerated example of the stuccoed-and-recessed perpendicular.

[1] "Report on the Investigations at Lubaantun, British Honduras, in 1926." (*Journ. Roy. Anthrop. Inst.*, vol. lvi.)

> Every two courses there is a definite, though slight, set-back. . . The megalithic terrace cannot as yet be fitted into any chronological sequence, but the presence of small cut-stones at the base of the second terrace indicates that it does not belong to any archaic period, when only megalithic structures were erected. Furthermore, some of the lower walls beneath the area to the east of Mound F are below the level of the top terrace, and therefore presumably earlier. These walls are in the stuccoed-and-recessed perpendicular style. Should the assumption that these walls antedate the megalithic terraces, or, at least the top terrace, be correct, the megalithic style would be proved to have been rightly classified as a variant of stuccoed-and-recessed perpendicular, a style which then would have both preceded and followed it."

With these conclusions I disagree. I cannot see any relation between the megalithic building and the "recessed perpendicular," built of blocks cut approximately to size, beyond the fact that the latter may have been developed from the former. The "recessing" of the megalithic terrace-walls, to which Mr. Thompson alludes, is infinitesimal as compared with the regular recessing of the "perpendicular" style constructed of small and regular blocks. Moreover, the fact that recessed perpendicular walls have been found at a lower level to the east of Mound F means nothing, because the megalithic terrace has been traced to the natural ground-level, while the walls to the east of F have not. If, as Mr. Thompson himself suggests, the highest natural elevation lies under Pyramid E, it is obvious that these walls may be supported by an artificial foundation, built on the westward slope of the hill-spur, where undisturbed ground has not yet been reached. I see, at present, no reason for altering my opinion that the megalithic terraces constitute the earliest phase of architecture at Lubaantun.

But, whether I am right or not, the fact remains that this megalithic style of building is, so far, the only example recorded in Central America.

Excavations North of Mound S.

(T. A. Joyce, *incorporating* J. E. Thompson's *report*.)

Mound S, which is shown without any designation on the plan of Lubaantun prepared last year, is the small mound on the eastern edge of the complex immediately to the south-east of Mound L, and north-east of Pyramid E. It is separated from the pyramid by a low platform, which has now been given the identification letter of T (Fig. 2).

Mr. Thompson, who had preceded me to the site, commenced operations by driving a shaft into the hill-side immediately to the north of this mound, with the possible chance of finding the continuation of the megalithic hill-terraces which appear to under-run the two great pyramids. No trace of megalithic work was encountered,

but the results of his excavations, which extended along the western side of Mound S. indicate several phases of reconstruction which are of considerable interest. Operations at this point had to be abandoned, in order to give full attention to the more important structures D, F, and G, but enough was accomplished to afford an almost

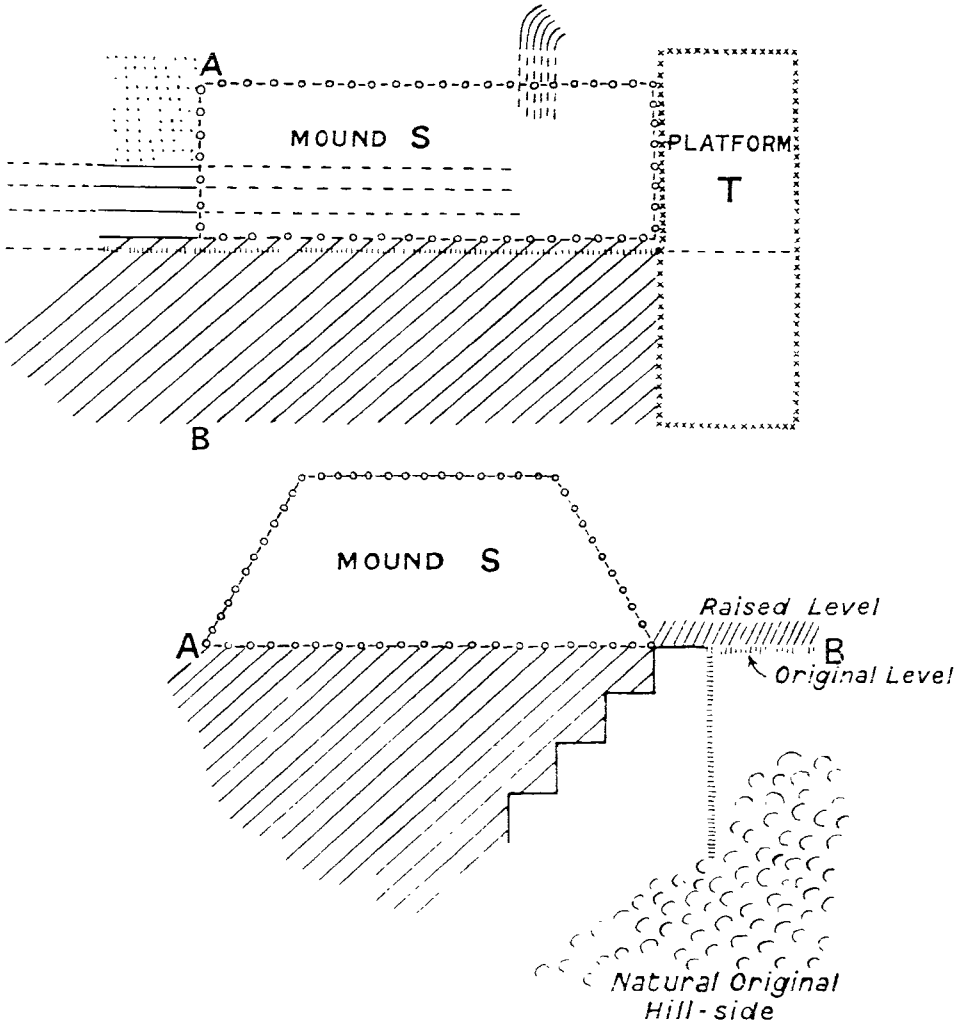


FIG. 2.—PLAN AND SECTION OF MOUND S, LUBAANTUN.

certain indication of some five architectural periods. I went over the ground carefully with Mr. Thompson, and am quite in accord with his conclusions which are embodied below. His plan and section are, unfortunately, not to scale, but I can vouch for their approximate correctness.

The shaft driven in through the collapsed terracing, backed by rubble, of the hill-side to the north of Mound S, revealed an inclined stucco-flooring leading to a flight of stone steps which run under the Mound S, and therefore belong to an earlier architectural period. These steps show traces of stucco-facing, and the depth of the rubble "filling" with which they have been covered indicates an enormous amount of labour expended in the extension of the natural hill-side. The inclined stucco-flooring and steps, with the rubble-filling, are well shown in Fig. 3, Pl. X.

The stucco-paving, which is irregular, appears to extend practically to the base of the hill-spur, while the edge of the top step coincides with the western margin of Mound S. A trench dug along the edge of this top step revealed the fact that, immediately behind it, separated by some 3 inches, is a wall of perpendicular masonry, without any stucco-facing, which appears to rest on the natural slope of the hill, as it varies from three to seven courses of masonry at different points. Since the stairway is built against it, it must therefore have been built before the stairway, but the two may belong to the same period. Mr. Thompson is inclined to relate them with two different phases of construction, the earlier of which was not associated with stucco-work. But it is possible that the wall was erected as a containing-wall to the hill-side for the very purpose of giving a "backing" to the stairway, in which case a stucco-covering would have been unnecessary and a waste of labour. At the same time, the wall continues in a southerly direction under Platform T, whereas the steps appear to end some 4 feet before this point, where they meet a recessed perpendicular wall, with stucco-facing, which runs eastward under Mound S, and then turns southward along the hill-face. The turn of this wall forms a rounded corner, and the wall itself appears originally to have extended to the base of the hill, but to the south of the corner it has collapsed.

The steps, and the wall immediately behind them, evidently represent the earliest phase or phases of construction laid bare at this point. Platform T is clearly later than the wall, since it is built across it; but it is earlier than Mound S, because the latter is built on to it. Moreover, Mound S is later than the steps, since the steps and stucco-sloping floor must have been filled in with a thick layer of rubble, extending down the hill-side, before it could have been erected.

Platform T is in the perpendicular style, and preserves traces of stucco. Mound S is built in similar style, and still shows six courses of well-cut and well-laid masonry; but, owing to weathering, it is difficult to decide whether it was originally furnished with a stucco-facing.

The ground to the west is now some 6 inches above the top of the steps and the lowest course of Mound S, and this rise in level may represent a later phase in construction.

Further excavation is required here to determine the exact relation between the steps and the terrace-wall which leads to the rounded corner, but this will involve at least a partial demolition of Mound S.

Pyramids C and E. (Pl. XI. Fig. 1.)

(By J. E. Thompson.)

The excavation of the top terrace of the megalithic terraces laid bare the south-east corner of Mound C beneath which it passes, thus confirming that this pyramid is later than the megalithic terrace. The south-east corner, however, although in a poor state of preservation, revealed slight traces of stucco, and, furthermore, indications that the so-called "in-and-out" style[1] had never been employed at this point. A more detailed examination of the exposed surface of the whole pyramid revealed a general unevenness in the projection of the "out" layers. Some projected a considerable distance, whereas others were in line with the stone immediately beneath them. This added grounds for suspecting that the "in-and-out" was not an artificial style of architecture, but the result of the natural process of disintegration to which the pyramid was subjected. On the west side of the pyramid an accumulation of debris some 5 feet high covered part of the base. On its removal, the pyramid facing behind was revealed as typical recessed perpendicular with stucco. The weight of the debris had preserved it from disintegration, with the result that in the same tier the covered part was stuccoed-and-recessed perpendicular: whereas, to the left and right of it, the surface, where it was exposed to the action of weather and roots aided by the loose-fill of the pyramid, had taken on an "in-and-out" aspect.

On the west front of E (Pl. XI. Fig. 1), another so-called "in-and-out" structure, is a short stairway flanked by buttresses with a deep batter, obviously a late addition. Excavations were made here to confirm the results of the work on C. Here, behind the south buttress, the surface of E was found to be definite stuccoed-and-recessed perpendicular in an excellent state of preservation. To anticipate, parts of the G complex revealed the same state. The bases of structures in apparent "in-and-out" style were found, without exception, to be in the stuccoed-and-recessed perpendicular styles associated with rounded corners. The possibility of the bases of these structures having been in different style to their upper sections is ruled out by the fact that "in-and-out" and recessed perpendicular often occur in the same tier, where the latter has been covered by some later construction or buried beneath a mound of debris.

No further excavation of Pyramids C and E was attempted this year.

(*Note by* T. A. Joyce.)

[Mr. Thompson, in the above account, suggests that the so-called "in-and-out" masonry is not an independent style, but is merely the result of the collapse of recessed perpendicular walls. I did not see the final stages of excavation at

[1] *See* "Report on the Investigations at Lubaantun, British Honduras, in 1926." (*Journ. Roy. Anthrop. Inst.*, vol. lvi.)

Lubaantun, and therefore could not study at close quarters the architectural details on which he bases his opinion. But I must confess that his photographs leave me unconvinced. Moreover, on a priori grounds, I cannot see how rubble-backed walls could collapse with such extreme regularity, especially in a region not subject to earth tremors. I fail to see what agency could transform the style of architecture shown in Fig. 2, Pl. XII, to that shown in Fig. 4, Pl. XII (right side). Mr. Thompson suggests that the pressure of fallen debris has sufficed to preserve the "perpendicular" style from the problematical collapse which results, in the case of exposed masonry, in an "in-and-out" appearance. To this I cannot agree. Fig. 4, Pl. XII, shows the south-east corner of Court IV, excavated in 1926. To the left is a typical perpendicular wall: to the right, built on to the latter, a typical "in-and-out" wall. The whole of this corner was filled with debris, which provided each wall with equal support. On Mr. Thompson's theory it is difficult to explain the "collapse" of the one without the "collapse" of the other. The photographs suggest to me no more than that buildings in the "in-and-out" style were sometimes provided with a base in the perpendicular technique.

In fairness to Mr. Thompson, I must repeat that I did not see the excavations on which he bases his opinion: but Dr. Gann, who visited the ruins just as the party were leaving, and therefore saw the excavations in their final stage, does not consider that the evidence supports his theory.

Another point against Mr. Thompson's suggestion is implied in the fact that the "in-and-out" style is, as far as known, confined to the immediate Lubaantun area. If it were the result of natural disintegration, it should have been found in other Maya sites erected in a similar environment.

The preliminary survey of last year seemed to indicate that the "in-and-out" style was always later than the perpendicular. But Mr. Thompson's excavation of Mound F (to anticipate) disproves this. He brings evidence to show that what was then regarded as a masonry "skin," built on to a perpendicular building, is really an earlier structure to which a perpendicular façade has been added.

The whole question is complicated, and can only be answered in the light of future excavation.]

Mound D. (Pls. XII and XIV, and Text-figs. 3 and 4.)

(By J. Cooper Clark.)

Excavations were begun on Monday, March 21st, on the south wall. The south-east corner is much destroyed by tree-roots displacing the masonry and by fallen debris. Following the south wall, by clearing away masses of debris, an early terrace of three steps was found; these continue northward under Mound D. The steps lead up to a platform measuring 15 feet 6 inches by 5 feet 6 inches, only the foundations of which remain. Next

come the foundations of what may have been a stairway 13 feet wide: here the wall is better preserved, and consists of four courses of ashlar 2 feet high and then a recess of 4 inches. This "recessed perpendicular" constitutes the main feature of Mound D (*see* Pl. XII, Fig. 2; Pl. XIV, Fig. 1), and, as soon as these walls were exposed, they were carefully propped up. Further excavation on this south wall had to be deferred until the huge tree-trunk and roots of a sileon were removed by firing—the ashes of the roots took ten days to cool. (Mound D is now cleared of all trees, with the exception of a single stately cohune palm growing on the top.) When the work was resumed at this point the south-west corner was exposed (Pl. XII, Fig. 1; Pl. XIV, Fig. 1).

At a distance of 6 feet 10 inches from the corner is a recess 3 feet by 12 feet 2 inches in the wall, filled in with small stones, and covered by a roof of stone-slabs measuring 2 feet 6 inches by 1 foot 3 inches by 3 inches. The back of the recess is faced with larger blocks than the wall. A platform, the same width as the recess, extends 17 feet 4 inches from the wall, and is about 4 feet high, but is still covered with debris, owing to the difficulty of finding a dumping-place.

Western Side.

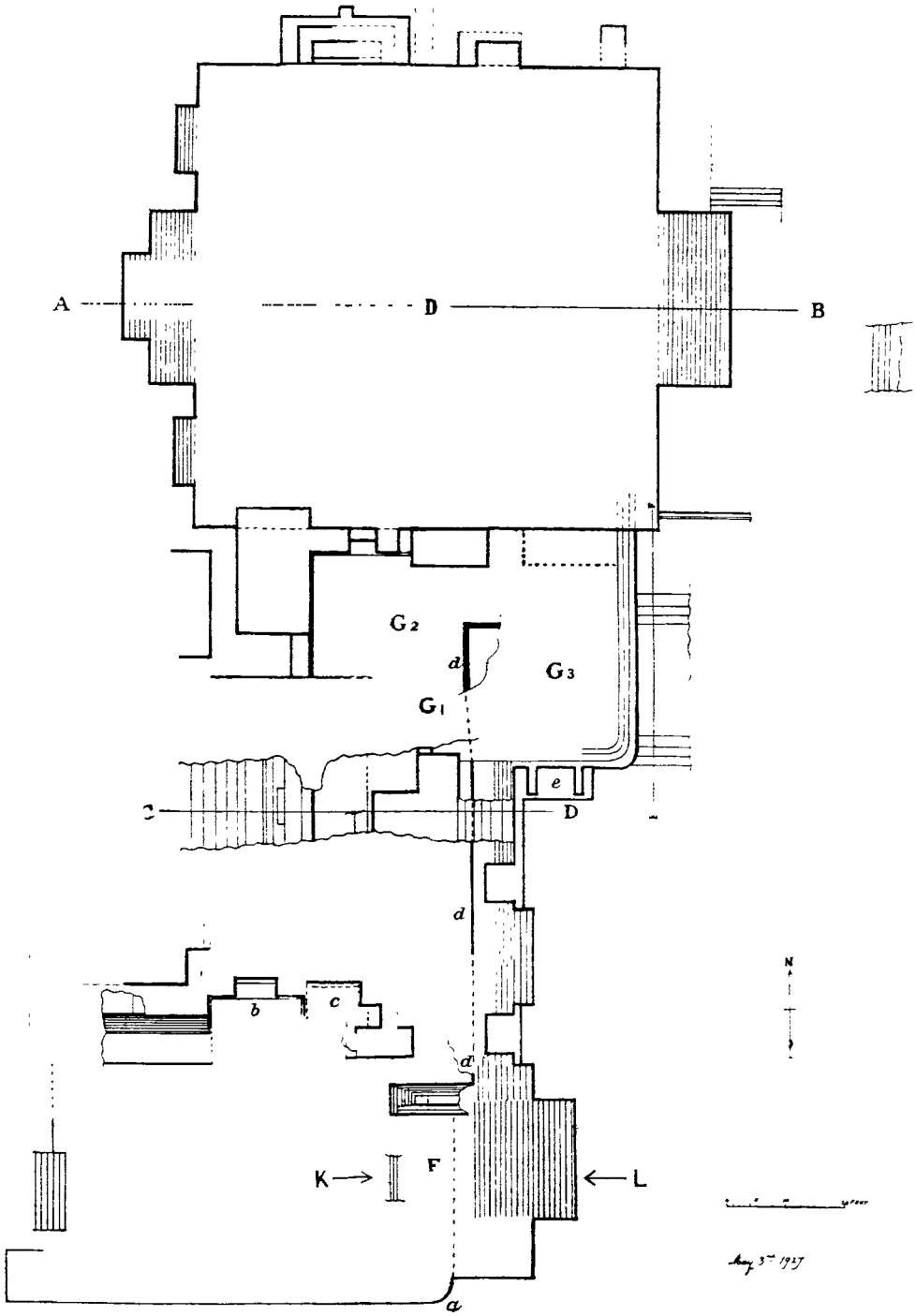
The west side of the mound being cleared, three separate stairways were exposed, the central one measuring 29 feet 4 inches across, and the two flanking ones 11 feet 3 inches. Between the stairways five well-preserved courses of the mound-wall can be seen, and these, owing to a difference in levels, rise from a platform. The steps are built on large blocks of loose rubble. Very little of the northmost stairway remains. (Pl. XII, Fig. 1.)

Northern Side.

On clearing the north side, a large platform was uncovered, only half of which can be traced; it measures 8 feet by 21 feet 6 inches, and has three smaller platforms upon it, each diminishing in size, viz. 6 feet 4 inches by 16 feet, 3 feet 10 inches by 12 feet, and 1 foot by 12 feet. The north-west corner is almost entirely gone. Further eastward from the large platform is a grave, measuring 5 feet 6 inches by 10 feet 6 inches, which appears to have been enlarged on the north and west sides; fragments of bone and pottery were found in it. Eastward of this are the foundations of an altar, 7 feet by 4 feet, under which upwards of forty shells were found. The wall here bulges considerably, but is prevented from falling by the roots of a tree. Only one course of the north-east corner remains. (Pl. XII, Fig. 3.)

Eastern Side.

The east wall being buried in so much debris, only enough of it was removed to ascertain the width of the stairway. This was found to be 29 feet 4 inches—the same as the grand stairway on the western side. Two step-terraces were found running



LUBAANTUN

FIG. 3.—PLAN OF AREA EXCAVATED IN 1927, INDICATING SECTIONS AT A–B, C–D, E–F, AND K–L, AS SHOWN IN FIG. 4.

at right angles to, and underneath, Mound D. Facing the stairway at a distance of 24 feet are four terrace-steps leading down to a lower platform and presumably on, downwards and eastwards, between Mounds C and E.

The Top of the Mound.

A 2-foot wall was first uncovered running parallel with, and the same width as, the grand stairway on the western side. Near the south end of this wall is a carefully cut water-channel. A low wall also runs east and west on the south side, but has not yet been followed. A trench was next dug along the centre line from the eastern side. Below the floor were huge blocks of dazzling white limestone, some too large for one man to handle: these being removed, a fine stucco-stairway was found similar to that discovered in Mound G. Six steps lead down to a stuccoed landing, but further excavation, from the inside, had to be abandoned, on account of the eastern wall: cutting in, however, from the outside, through the eastern stairway, revealed two more finely stuccoed steps. One burial on the top of the mound contained fragments of bones and pottery, a small green bead, and several teeth, two of which had been drilled for the small round turquoise ornament: while another burial at the top of the stucco-stairway, and almost in the centre of the top of the mound, contained fragments of pottery, teeth, etc., but also a pendant and four large beads, two carved ear-ornaments, one round ear-ornament with two small holes for feathers, and two square plaques, all of fine jadeite.

Besides a large quantity of figurines, fragments of pottery (some of alabaster), obsidian blades, flint spear-heads, broken metates, and metalpiles, bone-rattles, etc., two fine "eccentric" flaked cherts were found on the top of this mound (Pl. XXI. Fig. 3). This is the first time "eccentric" blades are recorded in southern British Honduras.

Mound D, then, is a square building having a length on each side of 77 feet, with walls 12 feet high built up in six courses of "recessed perpendicular," against which steps, platforms, and altars have been added, and this over a still earlier structure, of which only the stuccoed stairway has, as yet, been uncovered.

Mounds F and G. (Pls. XIII. XIV and XV: Text-fig. 3.)

(*From* J. E. Thompson's *notes.*)

This large complex must be treated as a single group, because the dividing lines which separated the original buildings have not yet been completely revealed by excavation, and it is quite clear that they had been ultimately welded into a single complex by successive architectural additions, the building of which must have occupied a considerable period of time.

Excavation, as far as carried out, indicates no less than eight successive architectural phases. Besides these there are some ten other constructions which can be definitely stated to be later than one or other of the principal phases, but cannot yet be allotted a definite place in the main chronological scheme. Since excavation is still incomplete, it is impossible to give a lucid explanation of the original ground-plan with its subsequent additions. But it seems clear that Mound F and that portion of the G complex marked as G1 (and probably G2) were separate mounds, which have been welded into a single whole by successive phases of over-building. G3 is definitely later than G2, because it is built on to the original eastern face of the latter.

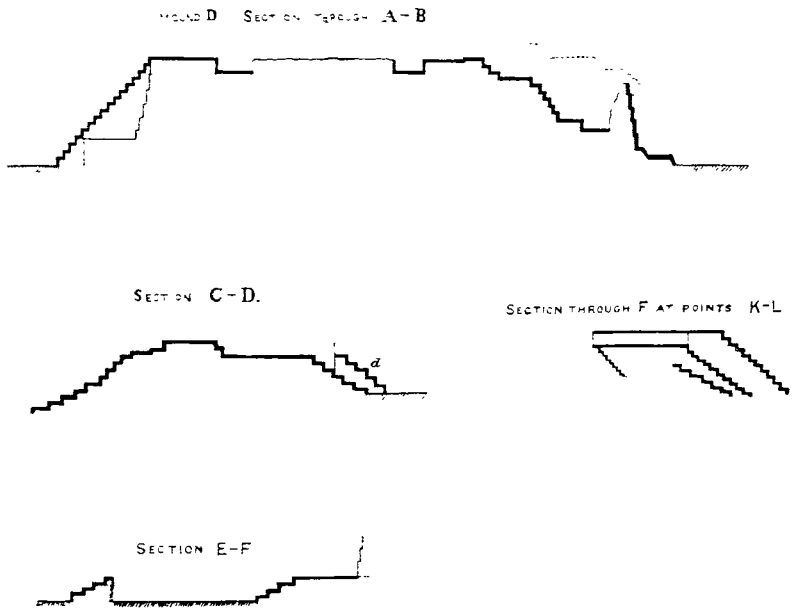


FIG. 4.—SECTIONS THROUGH MOUNDS D, G AND F, LUBAANTUN, AS INDICATED IN FIG. 3. (DRAWN TO SAME SCALE.)

The southern portion of the whole complex is formed by Mound F, an oblong mound, faced with masonry, with the major axis lying east–west, and with a stairway on the eastern face (Pl. XV, Fig. 1). The south-east corner, and part of the southern containing-wall, were cleared last year, and results appeared to indicate that an outer skin of masonry has been built along the southern side, terminating in a rounded corner (*a* on the plan). Excavation this year proved that this rounded corner is the *original* south-east corner of the building, and that the whole of the structure to the east is the result of subsequent additions. A shaft driven in through the centre of the eastern stairway provided additional proof, and the amount of reconstruction which has been carried out in this direction is best illustrated by reference to the section (Fig. 4, K–L). The result is important, because it shows that the square corner was in this case later than the rounded corner, and

indicates that these two styles do not represent two definite architectural periods. Moreover, since the rounded corner is in the "in-and-out" style, and the square corner in the perpendicular style, it may be argued that it is impossible to assume that these two styles are indicative of date, because the evidence provided here is contradicted by that supplied in other parts of the ruins. But it is a fact that the south-west corner of the mound does not, architecturally, correspond with the eastern portion of the southern wall. Excavation on this side was not completed, and a serious collapse had taken place just at the point where the two different styles should have met. But the evidence supplied from excavation, still incomplete, suggests that Mound F contains, as a nucleus, one, and perhaps two, smaller mounds which have been submerged by later constructions.

The north-east corner of the mound no longer exists. Both it and part of the northern side have been torn out to allow for the construction of chambers indicated by the letters *b* and *c* on the plan. The whole northern face of the mound has been covered by subsequent building.

Only at the western end, where it meets the retaining-wall of the hill-terrace, is the outer masonry face (in recessed perpendicular style) exposed. And even here, only the top five courses are visible, the lower courses being hidden by the raising of the level between F and G.

About the centre of the north face of the mound, a small platform of stuccoed perpendicular, some 4 feet high, has been built, hiding the top five courses of the original structure. This platform extends along the whole of the eastern half of the northern face, and within it have been constructed the small chambers described above. In the centre of the north face a small stairway, consisting of two stuccoed steps, has at a subsequent period been added. It was here that the most interesting pottery finds of the season, as well as fragments of a stucco head, were excavated (Pl. XXI. Fig. 1).

The west face of the pyramid presents an interesting problem. Here the pyramid overlooks the steep slope leading down to the western creek, and it would appear that a landslide has carried away part of the building. The north-west corner is formed by the junction of the north face of the pyramid and the western retaining-wall of the whole complex. South of this corner the side of the hill, which at this point is very steep, has collapsed, leaving a gap of some 12 feet in the retaining-wall which forms the west face of the pyramid: only some 6 feet of this wall is now visible. South of this is a stairway of half a dozen steps which projects some 3 feet beyond the line of the wall: this stairway is 13 feet wide. South of this, again, there is a gap of 3 feet, then a wall running westwards a distance of 6 feet, where it turns southwards a further $8\frac{1}{2}$ feet to the south-west corner of the mound. At some period an addition of nearly 18 feet was built to the west of the north-west corner. This is in the recessed perpendicular style, coated with stucco, and exhibiting a distinct batter.

The complex known as "G" can, as indicated above, be divided provisionally into three definite sections, of which the southernmost, now connected by later architectural developments with Mound F, is indicated on the plan as G1 (Fig. 3). Shafts driven into the complex from the east and west revealed the fact that the mound at this point contains, as an inner nucleus, a smaller stepped "pyramid," walled with excellent stuccoed masonry, which was evidently an independent building furnished with a cemented platform (Pl. XIV, Fig. 2). Apart from a general clearing of the site, time was not available for more than the excavation of a cross-section in an east–west direction. (*See* Figs. 3 and 4, C–D.) It is therefore impossible at the present stage of excavation to fix the limits of the inner structure. However, a pit dug just north of Pyramid F revealed that the earlier building did not reach as far south as this point.

The platform would appear to have once carried a wooden structure, probably a temple. Here the stucco-floor of the lower-floor level and of the platform was in an excellent state of preservation, a condition unlikely to be encountered had the floor been exposed to the ravages of the rainy season and the destructive forces of tree-roots. The floor was covered by a layer of some 3 feet of burnt clay, bright red in colour, in which were to be found small quantities of wood-ash. Large pieces of smoked stucco were scattered amongst the red earth, many of them lying with their surface downwards. In one or two cases the back of the stucco still bore the imprint of wooden poles. The presumption is that these numerous pieces of stucco had fallen from walls or a flat roof constructed of wooden beams and plastered with stucco. The smoke on the stucco, the red earth, and the ash, point to the building having been destroyed by fire. The pottery found on the floor of the building is in the best old Empire style, thereby ruling out any possibility of the building dating from some possible reoccupation of the site.

The area designated G2 is at the moment almost unexplored. It is quite possible that it contains another building, later connected with G1 and F by the cross-wall marked *d* on the plan, which appears to have been built along the eastern face of the whole combined complex.

Whatever buildings may be concealed in G2, it is certain that the extension marked as G3 is later, because it has been built on to the eastern wall of G2.

The excavation of the eastern face of this extension, and the southern face (against which a small niche had been built, marked *e* on the plan), seemed to Mr. Thompson to give further evidence that the "in-and-out" masonry was merely the result of collapse. His field-notes run as follows:—

> "Before excavation, the top six or seven courses only were visible: these appeared to be in the 'in-and-out' style. Excavation revealed the lower courses to be in the stuccoed-and-recessed perpendicular style with rounded corners. At the corner where G2 joins G1, debris had accumulated to such an extent that the mound was almost completely buried. On removal of the debris,

the style was found to be in a stuccoed-and-recessed perpendicular style. The corner and the debris had preserved the masonry here in its original position, with the result that, whereas at the other points where the mound was exposed to general wear and tear the upper courses had achieved the 'in-and-out,' the first step on the road to collapse, here they were still intact."

Mr. Thompson's conclusions as regards this structure are most interesting, in connection with the opinions he formed as the result of excavations around the bases of Pyramids D and E, and are illustrated by the photos on Pl. XIII. Against his theory, that the "in-and-out" masonry is the mere result of collapse, stands the evidence provided by the excavation of the south-east corner of Court IV, described in last year's report,[1] which revealed an "in-and-out" wall abutting on a perpendicular wall, each of which had been equally supported by a covering of debris. (*See* p. 302 above.)

Objects Found During Excavations. (Pls. XVIII–XXI.)

(By J. E. Thompson.)

Pottery.

The best pottery was found associated with the north face of Pyramid F, the megalithic terraces, and the south and west sides of Pyramid D. With the exception of a painted bowl with rounded bottom, the legs of which are missing, the finds were associated with the latest phases of construction. The pottery figurines and figurine-whistles discovered at these sites comprise those exhibiting the highest artistic skill, in addition to those of the common types, such as the visored figurines,[2] which occur everywhere (Pls. XVIII–XX).

The visored figurine is the commonest occurring at Lubaantun, and out of a total of some 266 heads, 56 belong to this type (Pl. XVIII, Fig. 2). Sometimes two visored figures face each other on the same whistle-plaque and appear to be either dancing or fighting. Almost invariably one of the hands is inserted in a muff-like object, which in some ways resembles a large boxing-glove. In one figurine of the visor type, considerably larger than the majority, the muff-like object is modelled as a grotesque face, and it is possible that no face is visible on the smaller ones merely owing to their small size. In two cases the muff is replaced by an extra hand, the hand of the visored figurine holding up another hand on a short pole or an arm. The costume of the visored figure is always the same—a kind of pleated bib hanging from the neck half-way down the chest, and a maxtlatl. The head-dress above the visor-mask varies considerably.

[1] See *Journ. Roy. Anthrop. Inst.*, vol. lvi (1926), p. 215.

[2] *Ibid.*, vol. lvi (1926), pl. xxvi, fig. 1.

The "mother-and-child-with-old-features" type is not rare, and the wrinkled-face heads are very common. Although in many cases it is impossible to tell the sex, female figurines would appear to be almost as common as male. Female sex is indicated by the wearing of a full-length skirt, and probably by the treatment of the hair.

The "baby-face" type, with puffed-out cheeks, is well represented. Several figures carry enormous masks below the waist: these would appear to represent the Sun God. The twisted scroll below the eyes, forming a loop between the eyebrows, is plainly visible in one case. The masks also carry what might possibly represent moustaches and a beard. A similar mask is worn as a shield on the arm of one of the figures on stele II at Menché. (Pl. XVIII, Fig. 1.)

Bird-, fish-, and jaguar-masks frequently form the head-dresses. Often the hair appears to grow straight up, being held in by a fillet near the base. (Pl. XX, Fig. 1.)

A head-dress of peculiar type[1] bears a strong resemblance to that worn by the principal figure of Lintel IV at Piedras Negras.[2] The ceremonial staff carried by this same individual is also found associated with the same head-dress at Lubaantun.

Several figurines show a peculiar feather fan-like object similar to one held by the figure of the altar on the Terrace of Structure 44 at Menché.[3] (Pl. XIX, Fig. 2, centre of top row.)

Sherds display great variety of types. The coarser ware, including that with impressed animal, bird, and geometrical design,[4] is naturally the most numerous group.

In the finer classes of pottery, red tripod-bowls are most frequently found: these vary considerably. Those with curved sides are either round or flat-bottomed and have small, round feet. Those with sides that make an angle are flat-bottomed, with the exception of a large painted bowl. The angle of the sides varies considerably from 30° up to 90°, the latter only in the case of low sides. The rims are either rounded or flat, and sloping up and outwards. Incised lines often occur either just beneath the rim, or above the base, or at both. The feet are usually round and small, and resemble most closely those of Northern Yucatan. One fragment of a painted tripod-bowl, the only one found with a leg, has the narrow horizontal oblong-type of foot.

A fair quantity of painted sherds were found on the floor of the megalithic terraces, as well as at D, F, and G in smaller quantities. Most of this falls into two main groups as regards shape and ware: firstly fragments of tripod-bowls of a thickish white-ware, which, although coarse, is very well mixed and baked. In no case did

[1] *Journ. Roy. Anthrop. Inst.*, vol. lvi (1926), pl. xxvi, fig. 1, centre of bottom row.

[2] *Memoirs of the Peabody Museum*, vol. ii, No. 1, pl. xxxii.

[3] *Ibid.*, vol. ii, No. 2, pl. lxxix.

[4] *Journ. Roy. Anthrop. Inst.*, vol. lvi (1926), pl. xxvi, fig. 1.

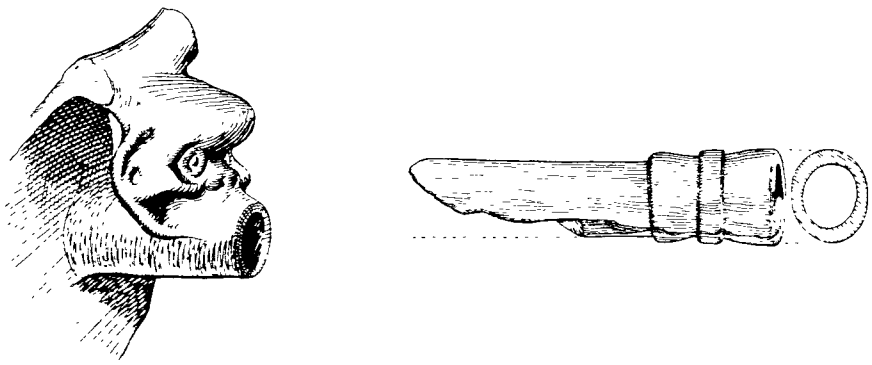
enough of the design remain to give any idea of the subject. The base on which the design is painted is usually a chalky white, the design being done in black and red.

The second main group consists of fragments of large bowls with high constricted necks. The ware is usually thinner than in the case of the tripod-bowls and is usually of red clay. The ground-slip is usually anything from cream to orange, on which either geometrical or unrecognizable patterns in red and black are painted.

These two types are found together.

Fine black-ware is not uncommon. Cylindrical tripod-bowls with very small feet and with bands round the base occur in a slightly coarse black-ware. In shape these vessels resemble certain Toltec vases, though the pottery of which they are made is of a different texture.

Probably most interesting of all are fragments of a black vase of good fine-ware with impressed design and with a restricted neck with everted lip. This was provided with gargoyle spouts (two only were found). The gargoyle-like figure would appear to be a monkey: the water issues from his mouth by means of a pipe connecting the inside below the rim with the mouth. Pottery of this type, so far as I know, has not previously been reported from the Maya area. (Fig. 5, A.)



A.—POTTERY VASE-SPOUT. × ½. B.—BONE EAR-ORNAMENT. × ½.

FIG. 5

Another interesting sherd is the rim of a vase provided with a spout of an almost European type. This was found associated with typical late old Empire pottery in the same place as the gargoyles, and the very fine fragment of the belly of the bowl modelled as a baby's face (Pl. XX, Fig. 2).

No ware of the "incensario" type met with in Northern British Honduras and Yucatan came to light in the ruins, though last year fragments of "incensario" ware of a crude type were brought in by natives from the neighbourhood. Neither were any sherds of the tripod-plates, the rims of which form an angle of scarcely 10°, found.

Coarse cylindrical vases and several of the figures showed traces of having been painted after firing. The former were painted with patterns in green, pink, and white; the latter in blue—the colour associated with death or sacrifice.

The figurines and figurine-whistles so typical of Lubaantun seem to be confined to a comparatively small area: they abound in the Milpas around Colombia and San Antonio. However, offers to purchase them at San Antonio Viejo, Mohijon, Pusilha, San Luis Peten, and around the Toledo settlement revealed that they were quite unknown in those areas. Unless, therefore, they should subsequently appear in the districts due west and north of Lubaantun, we can deduce that the phase of Maya culture represented at Lubaantun embraces a somewhat restricted area.

In addition to the mould-made figurines, which can certainly be dated as belonging to old Empire times, there occur a number of crude hand-made figurines. These can be divided into two groups.

The first group comprises a quantity of figurines of animals, birds and men. The eyes are usually made by applied buttons of clay with grooves cut across the surface or by gouged-out holes. They are of poor clay, badly baked, and were found in considerable numbers on the surface of the land to the east of Lubaantun, in some cases on the tops of old Empire burial-mounds. Almost invariably they show traces of having been burnt, owing to the land being burnt for agricultural purposes, and undoubtedly represent a very late phase, probably considerably after the Spanish Conquest.

The second group is at present only represented by three or four figurines. They are found associated with old Empire pottery and figurines in the ruins. The workmanship is crude, but they undoubtedly represent a definite type. The eyes and mouth are mere gouges, and the top of the head is carried up to a point, as though their makers had squeezed out the clay between finger and thumb. They appear to be too much of a type to have been made by a child or as the whim of some idler. Whether they were made during late old Empire times in connection with some special cult, or whether possibly they belong to some earlier archaic period, it is at present impossible to say.

Stone.

No ornamental carved stone was encountered during the whole season's work. Spear-heads and blades were found in considerable numbers, usually of flint or chert, and occasionally of obsidian. In one case a chert spear-head was supplied with tang and wings. Obsidian flakes were common. Pieces of two "eccentric" chert implements were found on the top of D (Pl. XXI, Fig. 3). Polished stone celts are fairly frequently met with, usually small in size. Jadeite is represented by a few pieces, a grave on the summit of D yielding beads, and ear-ornaments (Pl. XXI, Fig. 2). One or two other small pieces were found on the F, G complex and around the base of D.

Fragments of calcite vases were excavated on the megalithic terraces and at the base of D. Some of these fragments display a remarkable perfection of technique, and it is noteworthy that, though calcite was worked in the Mexican Valley under

the Aztec regime: these are the first indications of calcite vases relating to the Early Maya period.

Stone bark-cloth beaters turned up in considerable numbers; they are either oval in shape, or square with rounded corners and invariably are grooved on three sides for hafting (Pl. XXI. Fig. 4).

Small limestone pendants were occasionally found.

Fragments of metates were excavated everywhere. In excavating the megalithic terraces, a dump was found which included nearly forty legs. There are two main types, one with, and the other without, legs. One metate was purchased in Colombia, which, in addition to three legs possessed a small crudely carved head in front. This piece had been dug up close to San Jacinto, near to the mouth of the Rio Grande, and some 15 miles from Colombia, and represents a type not found at Lubaantun (Fig. 6). A number of grindstones of limestone were also excavated.

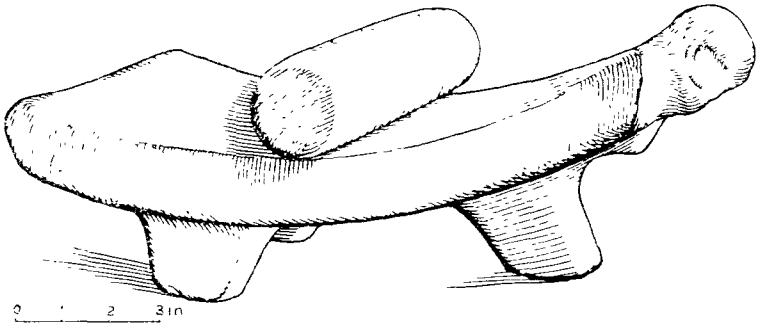


FIG. 6.—STONE "METATE."

The "manos" excavated are invariably round, whereas the modern "mano" used in this area is flat. Similarly the modern "metate" has raised edges: those excavated are not provided with an edge.

Metal.

No metal objects of any description were either excavated or met with in the villages of San Antonio or Colombia.

Shell.

A number of shells perforated for suspension appeared in the different excavations: also a few conch trumpets.

Stucco Work.

Moulded stucco was found at the base of Pyramid D, and at one or two places in the F. G complex. In no case was the stucco found in place, except as facing to walls, but was discovered amid the debris or fill.

Parts of a large human face, including the typical Maya eye, were found at the base of the north face of F (Pl. XXI. Fig. 1). Fragments of ornamental glyphs turned up outside one of the last periods of G.

The stucco is hard and well made. There are no traces of paint, the stucco varying in colour from a rich cream to white.

Bone.

Part of a bone carved for use, probably, as an ear-ornament, was found on the north side of Pyramid F (Fig. 5, B.).

Several bones, serrated, to be used as rattles, were found at various points.

Conclusions.

(By J. E. Thompson.)

The excavations this season have revealed over and over again evidence of continual building and rebuilding. In no case, however, have the earliest constructions been laid bare.

Every early pyramidal structure is in the recessed perpendicular style. As a rule there is a set-back every second course, and, without exception, stucco is applied. To this, or an earlier, architectural phase belong the megalithic terraces, where a regular set-back occurs every second course, although the recess scarcely amounts to more than a couple of inches.

The outer skin of Pyramid D is of a variety of recessed perpendicular, marked by a set-back every seventh or eighth, instead of every second, course. In addition to this, there are a number of retaining-walls built in straight perpendicular. These do not appear to indicate any phase of architecture that can be chronologically separated from perpendicular recessed, for such a wall can be shown to be both earlier and later than recessed perpendicular constructions in the F, G complex. There is also a debased perpendicular, which may represent a later phase, but equally well may only denote a careless piece of work.

As already noted, rounded and angular corners occur in the same complex. The early buildings show, therefore, three styles of masonry:—

(I) Recessed perpendicular.
(II) Straight perpendicular.
(III) Debased straight perpendicular.

With the exception of one wall (in Mound S complex) built in straight perpendicular style, every building so far uncovered shows evidence of having been once coated with stucco. Of the three styles of architecture, (I) and (II) are probably contemporaneous, (III) may represent a later period.

The pottery figurines found on the immediate surface of the earliest architectural remains so far discovered show no discernible stylistic differences from those found associated with the latest architecture. In fact, many from the earlier constructions

are identical with those from the latest additions. Stylistically all would seem to date from the second half of the 9th Cycle.

The excavation of the earliest constructions which lie buried beneath F. G. and D. may reveal an earlier period which will yield definite evidence of a phase or phases stylistically distinct from what has been excavated this year.

Of a later occupation stretching into Spanish times, there is little evidence in the ruins themselves though undoubtedly the district around continued to be occupied by small groups until the present time. Probably the most distinctive trait of the late Maya culture that flourished shortly before, during, and for a period after, the Spanish Conquest is the coarse "incensario" of badly fired painted-ware. Of this type of pottery not a fragment was found during the season's excavations. Furthermore, no European beads or objects of metal were found on the site.

However, it is clear that the area to the east of Lubaantun was used as a burial-ground in late times.

Lubaantun would appear to have been abandoned like all old Empire cities early in Cycle 10. Subsequently it was the camping-ground of semi-nomadic Maya refugees in late times, probably well after the Spanish Conquest. It is doubtful if these late-comers indulged in any construction in stone at all.

Neighbouring Ruins.

(By J. E. Thompson.)

I.

Acting on information supplied by Mr. Neill Stephenson, of the forestry department, ruins on the mahogany concession of Mr. Lee Pearce were visited. The ruins are situated on the banks of the Pusilha branch of the Mojo River where this river crosses the Guatemalan frontier, and lie about 30 miles S.S.W. from Colombia. The site covers a considerable area, and there seems no doubt that these are the ruins of Pusilha. The writer heard on several occasions of these ruins and on his journey to San Luis Peten made many enquiries of the natives as to the existence of a city at Pusilha, but in every case was met with the reply that no ruins were known of near the village. Pusilha is a small settlement of four or five houses close to the head waters of the Pusilha River: the trail from Pueblo Viejo to San Luis passes close to the village, which must be distant about twelve miles from the ruins. Terraced hills are much in evidence, and there are in addition a considerable number of small mounds built of undressed limestone. A stairway of five or six steps of roughly cut stone led to the summit of a small mound.

Perhaps the most interesting ruin is that of a bridge spanning the River Pusilha. On both banks, which at this point are somewhat high, bastions had been built

out into the river a distance of about 12 feet on each side, leaving a gap of about 30 feet to be spanned by wood. The bastions are of typical "fill" construction, that is, of well-built-up boulders somewhat resembling a Yorkshire dyke. They are about 20 feet high and some 30 feet wide. This is the only bridge so far reported from the Maya area.

Mr. Mason, who is working with the Pearce brothers, was kind enough to lead the writer to a pottery dump he had uncovered while making the traction road to bring down the mahogany. Here Mr. Mason had found some very good painted pottery, including fragments of a fine cylindrical vase with some very beautiful glyphs incised on its surface. Although somewhat "conventionalized," end of tun 8 was fairly clear.

In the course of half an hour's excavation, the writer unearthed fragments of an incensario, painted and plain plates and painted pottery. The presence of the incensario, which appeared to be of a non-old Empire type, and the fragments of plates with almost flat rims would seem to indicate that the ruins of Pusilha are of a later date than the period at which Lubaantun flourished.

The writer would like to take this opportunity of expressing his gratitude to the Pearce brothers and Mr. Mason for the hospitality they showed him in the course of his visit.

II.

Natives had reported hieroglyphic inscriptions near San Luis Peten, and a visit was accordingly made to this town. San Luis is a Maya-speaking centre situated about 50 miles south-west of Lubaantun, and some 40 miles from Pueblo Viejo, the first village claimed by Guatemala. Unfortunately no altar, stelæ, or ruins were found, but several caves in the vicinity of the town were visited; these yielded nothing but sherds of coarse ware, which may even have been of post-conquest date. No traces of mounds were observed in the course of this journey, and no figurines, figurine-whistles, or axes are found by the Indians while making their corn plantations. Though very hilly, the soil is rich, and there are large outcrops of limestone at different points within the Guatemalan border.

Ethnology.

(By J. E. Thompson.)

Religion.

Advantage was taken of the presence of a large number of workers from the village of San Antonio to initiate ethnological work.

The Maya of Southern British Honduras, like his brother of Yucatan, is extremely reticent on all questions connected with his religion and customs. However every

effort was made to win the confidence of the men, with the result that whereas, at the beginning of the season, all attempts made by the writer to obtain information were blocked by evasive answers, or straightforward denials that any traces of the old religion remained, yet at the close of the season a number of the men supplied information freely.

Probably the most interesting material was that dealing with the survival of the worship of Itzamna, the Sky God of the ancient Maya.

Among the new generation now growing up he is nothing but a name: far otherwise with the older men. The final "na" of his name has been dropped, but as "Itzam" he is still lord of the sky. He is head of the pantheon, and all the other gods are subject to him. He is also closely connected with creation: all animals are of his creation, and to him are directed prayers for their increase. Nevertheless, like most creator-gods he has little attention paid him. It is considered more important to propitiate the lesser deities, who are closer to the people.

Venus, too as morning star, is still worshipped under the names of Ah Noh Xulab (the great star) or Ah Noh Ich (great-eye). He is especial patron of the hunters. When on long trips, the hunters rise before dawn and burn copal as they recite the following prayer to Venus, and Cu the Forest God:-

> "O God, Holy Star, my grandfather, my grandmother, Lord Cu, God of the forest, Lord Xulab, Holy Morning Star, give to me of your offspring. I am annoying you, even your very heart I molest, and your animals too. Fulfil your covenant and give me of your offspring: you have many animals in your bosom, the few I hunt will make no difference."

In view of the supremely important part played by the Milpa in the life of the Maya, it is not strange to find many prayers associated with its working. Prayers to the God of the hills (Hultz), of the plains (Hok), and of the forest (Cu) are offered with copal at the time of clearing and of planting. Before burning, the help of the Wind God is besought, the red wind, the white wind, and the whirlwind. Prayers for rain are offered to Ha, the God of rains, and Chac, the God of thunder. All these prayers were collected, of which the following translation of the prayer offered when clearing is to commence is typical:—

> "O God, my mother, my father, Lord Hultz, God of the hills, Lord Hok, God of the plains, Lord Cu, God of the forests I am about to do as we have always done Now I make my offering to you that you may know what I am about. I am disturbing your very heart but you must suffer it. I am going to soil you, I am going to work you that I may live. But I pray you do me no harm, may no class of animal, no snake, no scorpion or wasp bite me. Let no tree fall upon me, suffer not the axe or machete to cut me, for I am about to work you with all my heart."

Until recently, February 8th was always observed as a day of intercession for a successful season, but the prayers were directed to the Christian deity. As this date is of no particular significance in the Catholic church, it would appear probable that it, too, is a survival of an ancient Maya feast. In the correlation put forward by the writer[1] the day February 6th occurs more frequently than any other day (April 9th of Spinden's correlation), and there seems to be a definite possibility that this modern event—the only fixed festival of non-Christian significance, is a survival of February 8th of the old Empire. Interesting prayers to Ha, the Water God offered up when poisoning the rivers for fish, were also obtained.

Magic

Two interesting cases of magic were obtained. Until recent times, when men went out hunting, their women-folk assisted them by marching round the tame pigs in the village and burning copal at the same time. This was supposed to make the wild game as tame as the pigs.

When rain is badly needed, the saints from the church are stripped of their clothing and put out to bake in the hot sun until they realize how uncomfortable the heat is.

Sorcery.

The San Antonio Maya dabble little in black magic. The local witch-doctors, without exception, are Kekchi-speaking Indians from Colombia. Nevertheless they are greatly respected, and any unusual form of illness is ascribed to them.

Burial.

Until recently, possessions of the deceased were interred with the body, but this practice has now become obsolete. Food, especially the favourite dishes of the man or woman in the case, is scattered to the four winds on the third and eighth day after burial.

Spirits and Ghosts.

The belief in spirits is general. They either take the shape of monstrosity, or of beautiful girls who lure the foolish far from human habitation and then slay them. The attitude towards ghosts is comparable to that of the Latin races. Ghosts are believed to exist, but no attention is paid to them, and no cases are known of in which a ghost has harmed a human.

Linguistics.

The San Antonio are a Maya-speaking people. Vocabularies were collected; there are grammatical variations from Yucatec of minor importance. In pronunciation the difference is more accentuated. The most important of these is a strong

[1] *A Correlation of the Mayan and European Calendars*, Field Museum of Natural History Anthropological Series, vol. xvii, No. 1.

tendency to turn the "a" into a "u," with a very slight trace of what appears to be an "r," as the "ur" in "hurk." (Examples: *Kan* (yellow) becomes *kun*: *chac* (red) becomes *chuc*.) The letters "b" and "p" tend to be dropped. (Examples: *Haleb* (gib-nut) becomes *hale*: *chapal* (girl) becomes *chual*: *maseab* (machete) becomes *masca*.)

Minanhá. (Pls. XVI and XVII.)

(By T. A. Joyce.)

When I left Lubaantun I returned to Belize, where I met Dr. Gann. It so happened that Dr. Gann had received news from Benque Viejo that pottery fragments of fine type had been brought in to that village by a "chiclero" from a ruined site previously unrecorded. We accordingly chartered a launch and proceeded up the Belize River to El Cayo, a journey of two days and nights. We stopped on the way at a landing called Baking-pot, where, close to the river-bank, on clear ground, are a number of mounds which suggest a very promising field for excavation. An American expedition, some years ago, made a partial excavation of two of the mounds and obtained a certain amount of pottery. But these excavations, as I observed them, seem to have been carried out on a small scale and the site is practically untouched.

From El Cayo to Benque Viejo we proceeded by road, one of the very few real roads in the colony. At a native village, known as Succots, we crossed the river and inspected a ruined site called Xunantunich. This consists of a number of mounds, one of which, a terraced hill, rising far above the others, is crowned by a ruined temple built of stone and lined with stucco (Pl. XVI, Fig. 2). The view from this eminence over the little village of Benque Viejo is superb. Near the base of this hill is a fallen stela, with an inscription, badly weathered but still readable, recording, apparently, the date "10.1.0.0.0, 5 Ahau, 3 Kayab" (Pl. XVI, Fig. 1).

At Benque Viejo we collected six "chicleros" and eight mules and started off next day.

Two hours' riding brought us to a ravine with precipitous limestone cliffs with many caves, many of which, according to native account, contain early pottery. As we were uncertain of our objective, and had no ropes except those which secured our baggage to the pack-mules, we decided not to stop, but to defer exploration until our return. Unfortunately we came back by another and shorter route, so the opportunity was lost.

After a ride of eight hours, over very difficult country, we encamped on a small shelf half-way up (as it proved) of a very steep hill on the summit of which, so we were assured by our guide, the ruins stood. The rest of the slope was impossible even for Central American mules, and by that time the animals were pretty well exhausted.

Unfortunately the water-hole, reputed to be in the neighbourhood, contained more mud than water, owing to the fact that the dry season was at its height, so next day I was obliged to send the mules back to Benque Viejo for a supply. Meanwhile we lived on the sap of the water-bearing liana, known locally as "*bejuco*." This is no hardship, but it entailed the employment of two of our small staff for two days in cutting this particular variety of liana.

Our guide proved correct. The top of the hill, which appears to dominate the country immediately surrounding it, is the site of a large complex of mounds and courts. The site lies to the south of Benque Viejo, in the direction of Vaca Falls and Camp 6.

Our camp lay roughly to the south-west of the ruins which we approached by a winding track, made by ourselves, over rough ground with, towards the summit, traces of rough limestone terracing. The final stage led over two definite dry-built terraces, running roughly north and south to a plateau on which were a number of artificial mounds. The accompanying plan will illustrate the general position, but I had not time to survey more than the main complex. My survey was obtained merely by means of prismatic compass and tape. My plane-table and clinometer had been left for the use of the Lubaantun staff, and the fact that I was working in virgin-bush, which I had neither the time nor the labour to fell, rendered survey-work slow and difficult. Fortunately virgin-bush is clearer of undergrowth than the so-called "*huamil*" (land which has been cleared for cultivation and abandoned), so I think that my plan may be regarded as approximately correct.

The main site of the ruins, which we christened "Minanhá" (a Maya word, meaning "no water"), lies approximately north and south. Our route from camp led north-west to the plateau, passed between a series of mounds (unsurveyed) to the mound marked A on the plan (Fig. 7), and thence, turning north, between two lower mounds, B (Pl. XVII, Fig. 1) and C, to the southern face of a huge mound, D, furnished with a stairway on its southern face, and supporting other mounds, as shown on the plan.

The terracing of the hill-side, and the facing of the pyramids and mounds throughout the whole site, consists of limestone blocks irregularly cut and badly fitted. The only good masonry discovered related to underground chambers discovered in the course of excavation.

As I had left my clinometer at Lubaantun I cannot give an accurate estimate of the height of Mound D. But the terrace-slope measures some 90 feet, and the angle is somewhere between 40° and 45°. At a guess, the height is about 35 feet.

This Mound D spans the ridge of the hill. On its southern edge it supports two low mounds, E and F, between which the stairway debouches. In the north-west corner is the tallest mound of the complex, Mound H, some 12 feet high. Immediately to the west of this is a very small mound, K, and, on the western rim, the low Mound G.

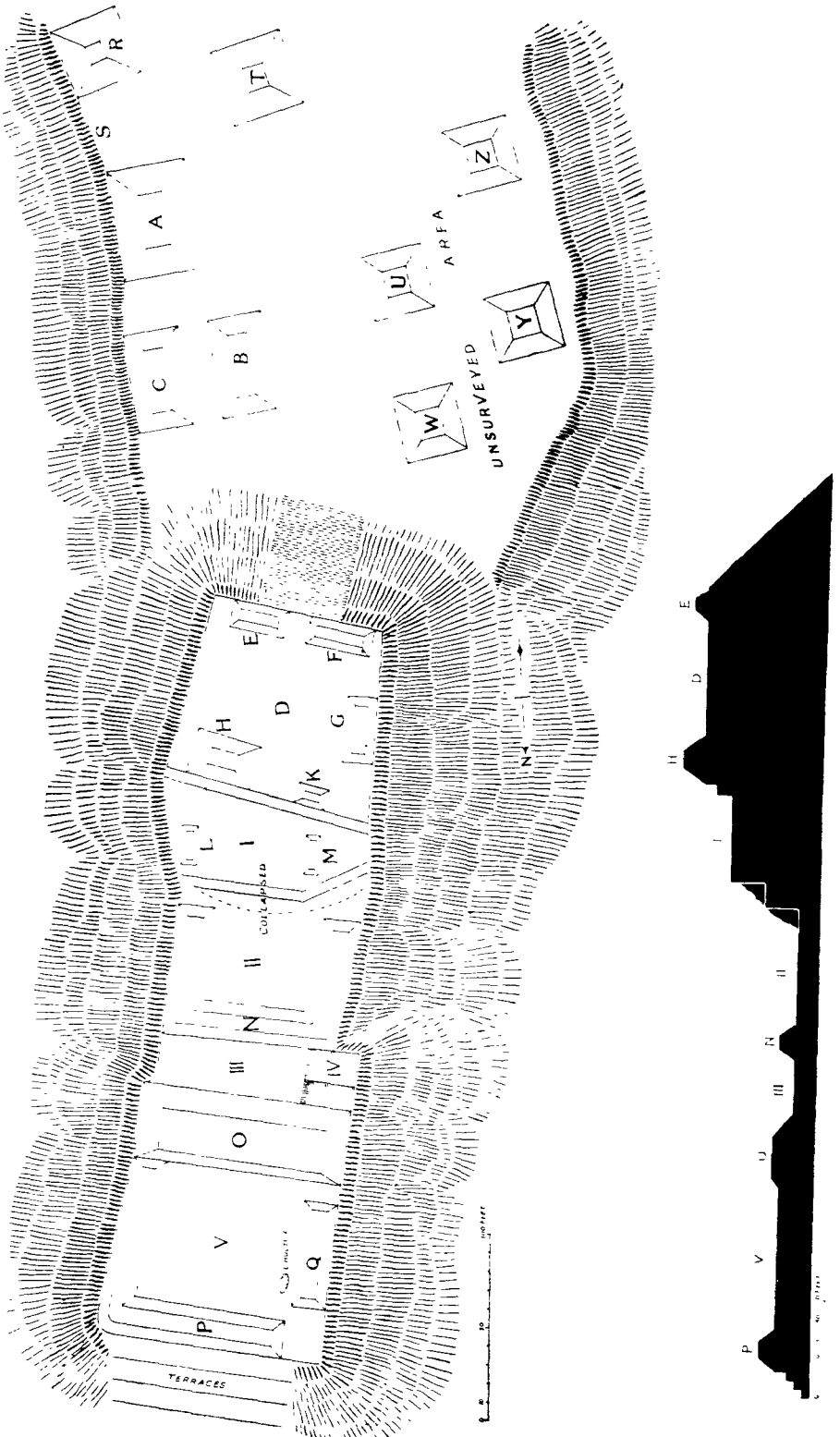


FIG. 7.—MINANHÁ. PLAN AND SECTION OF NORTHERN PORTION.

East and west of the great Mound D, the ground falls steeply to the valleys on either side. On the west side there are traces of terracing (Pl. XVII. Fig. 2), but time was lacking for the investigation of the eastern side.

On the north, Mound D descends, by means of an intermediate terrace, to a platform (I) flanked by two low mounds. West of the western Mound M is another small platform at a still lower level.

From Platform I. on the north side, is a further descent, again by means of an intermediate terrace. But here there has been a collapse of masonry, and the exact line of the terrace is difficult to determine without excavation.

The descent, however, leads to a rectangular Court II, enclosed on the east, south, and west by a continuous mound some 9 feet or 10 feet high (N).

Crossing the northern boundary-mound one comes to a narrow platform (III), the western portion of which forms a small court at an abruptly lower level (IV). This platform is bounded on the north by a transverse mound (O), some 9 feet or 10 feet high, but with a drop of only 3 feet on the other side. This gives access to Court V, bounded by a continuous mound enclosing the eastern and northern sides (P) about 8 feet high, with an unconnected mound (Q) on the western margin of the court.

To the east of the last mound we discovered a "*chultun*," a masonry-lined cistern, which, unfortunately, with the limited amount of labour which we had at our disposal, we could not excavate completely. No remains of any sort were discovered here, but we did not reach the original flooring.

Beyond the northern limb of Mound P, the hill-spur descends in a series of terraces, for the survey of which I had no time.

Our journey was more a prospecting-trip than anything else. With six labourers, two of whom were almost continuously employed on locating and cutting "*bejuco*" for our water-supply, we could not attempt the clearing of the virgin-bush, except on a very small scale. We attempted excavations at certain points, but the results were disappointing. However, the site is so large that the work of a week, while sufficient to establish its importance as an archæological possibility, cannot be expected to produce important results in the way of finds, save by lucky accident.

Excavations were made at the following points:—

The first was in Mound H (on the top of the great Mound D) near its summit on the south side. Here, after some digging, we encountered a wall, better built than the external masonry of this site, running from east to west. Hoping that we had hit on a chamber, we drove a shaft through from the northern side, but found no corresponding wall there. Another excavation was made towards the east of the summit. Results were disappointing; the exact meaning of the wall encountered could not be guessed without digging operations on a large scale, and finds were limited to obsidian flakes, fragments of rough pottery—one apparently the nose of a large figurine—and a few stone implements.



FIG. 1.—MEGALITHIC HILL-TERRACES, EAST SIDE OF LUBAANTUN.



FIG. 2.—LOWEST OF THE MEGALITHIC TERRACES, LUBAANTUN.



FIG. 3.—EXCAVATION IN EASTERN HILL-TERRACE TO NORTH OF MOUND 8, SHOWING STUCCO PAVEMENT, STAIRWAY, AND RUBBLE FILLING. LUBAANTUN.

BRITISH MUSEUM EXPEDITION TO BRITISH HONDURAS.

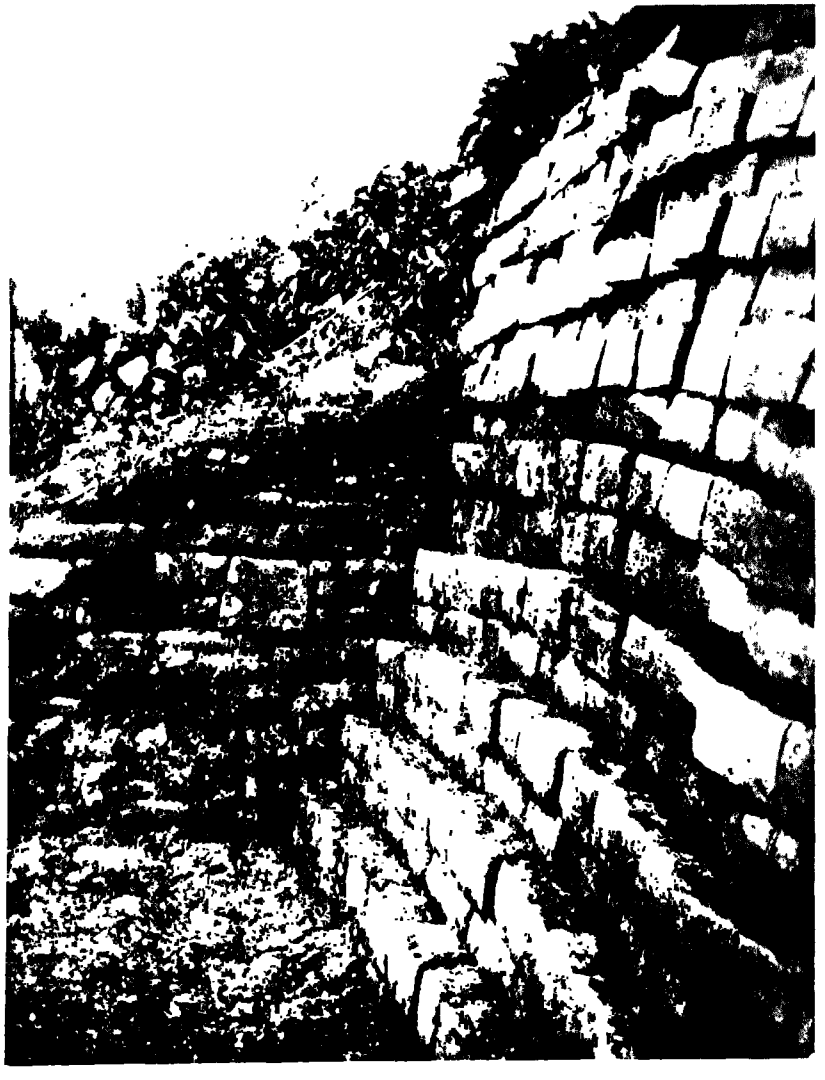


FIG. 1.—WEST FACE OF PYRAMID E FROM THE SOUTH, SHOWING STAIRWAY AND "IN-AND-OUT" MASONRY ON PERPENDICULAR. LUBAANTUN.



FIG. 2. MEGALITHIC TERRACES. THIRD TERRACE. LUBAANTUN.



FIG. 1. SOUTH-WEST CORNER OF MOUND D, LUBAANTUN.

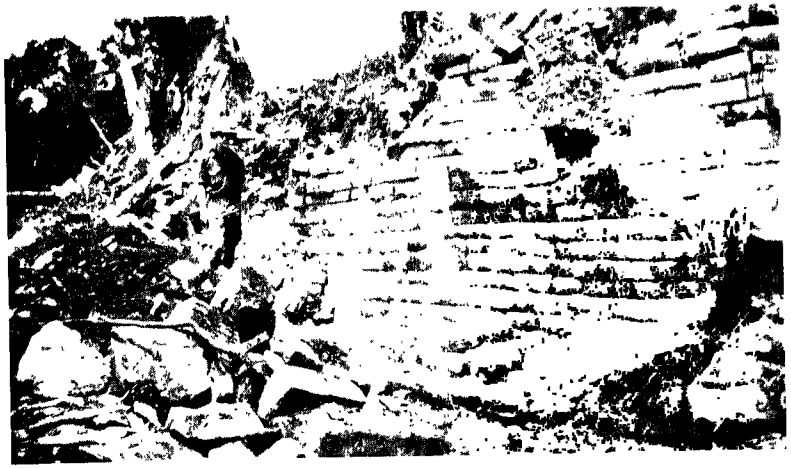


FIG. 2. SOUTHERN FACE OF MOUND D, LUBAANTUN



FIG. 3. PYRAMID D, FROM THE NORTH-EAST, SHOWING EXCAVATION IN EAST FACE WHICH REVEALED INNER BUILDING. LUBAANTUN.



FIG. 4. SOUTH-EAST ANGLE OF COURT IV, LUBAANTUN



FIG. 1. ROUNDED CORNER OF MOUND G FROM SOUTH EAST. LUBAANTUN.



FIG. 3. STAIRWAY ON WEST SIDE OF G. LUBAANTUN.



FIG. 2. OUTER FACING OF G1 (LEFT) BUILT ON TO G3 (RIGHT). LUBAANTUN.



FIG. 4. EAST FACE OF G3 (LEFT) AND TRANSVERSE STAIRWAY (RIGHT). LUBAANTUN.

Journal of the Royal Anthropological Institute, Vol. LVII, 1927, Plate XIII.

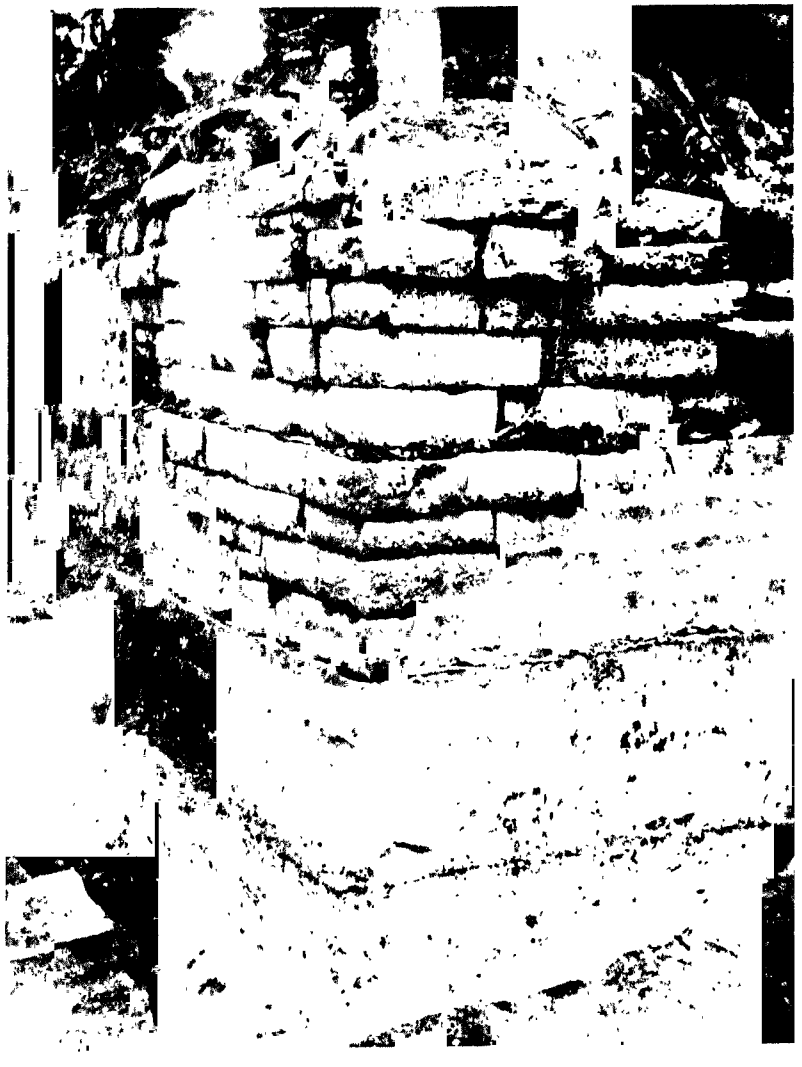


FIG. 1.—SOUTH-WEST CORNER OF MOUND D AFTER EXCAVATION. LUBAANTUN.



FIG. 2.—INNER STAIRWAY ON EAST SIDE OF G, LEADING TO SHRINE PLATFORM. LUBAANTUN.



FIG. 1.—MOUND F FROM THE EAST. COMMENCEMENT OF EXCAVATION. LUBAANTUN.



FIG. 2.—EAST STAIRWAY OF F (LEFT) FROM NORTH. EARLIER STAIRWAY (CENTRE) AND SOUTHERN NICHE. LUBAANTUN.

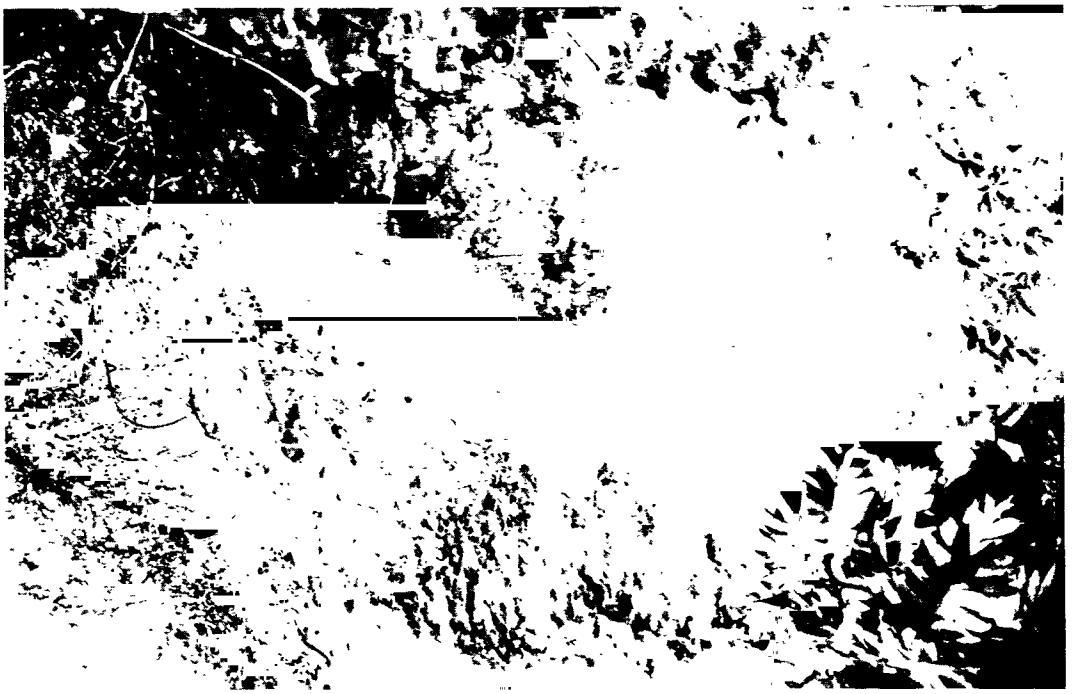


FIG. 2.—THE RUINED TEMPLE. XUNANTUNICH, NEAR BENQUE VIEJO.



FIG 1.—CARVED AND DATED STELA. XUNANTUNICH, NEAR BENQUE VIEJO.

BRITISH MUSEUM EXPEDITION TO BRITISH HONDURAS.



FIG. 2.—HILL-TERRACES TO THE WEST. MINANHÁ.



FIG. 1.—VIEW, LOOKING EAST, ON THE SUMMIT OF THE HILL. MOUND B, ON THE LEFT. MINANHÁ.



FIG. 1.—POTTERY FIGURINES. LUBAANTUN. $\times \frac{7}{8}$.

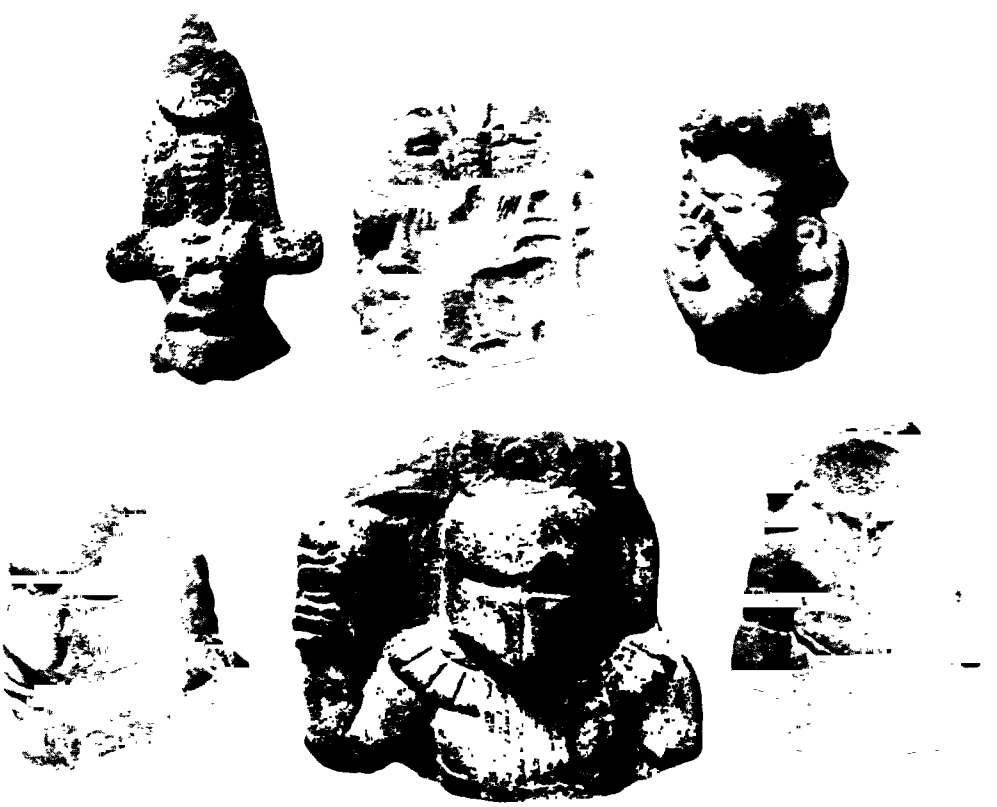


FIG. 2.—POTTERY FIGURINES. LUBAANTUN. $\frac{3}{4}$



FIG. 1.—POTTERY FIGURINES. LUBAANTUN. ABOUT $\frac{1}{4}$.



FIG. 2.—POTTERY FIGURINES. LUBAANTUN. $\frac{1}{4}$

BRITISH MUSEUM EXPEDITION TO BRITISH HONDURAS.



FIG. 1.—POTTERY FIGURINES. LUBAANTUN. $\frac{1}{2}$.



FIG. 2.—POTTERY FRAGMENTS. LUBAANTUN. $\times \frac{1}{2}$.

BRITISH MUSEUM EXPEDITION TO BRITISH HONDURAS.



FIG. 1.—STUCCO FRAGMENTS. ABOUT $\frac{1}{3}$. LUBAANTUN.

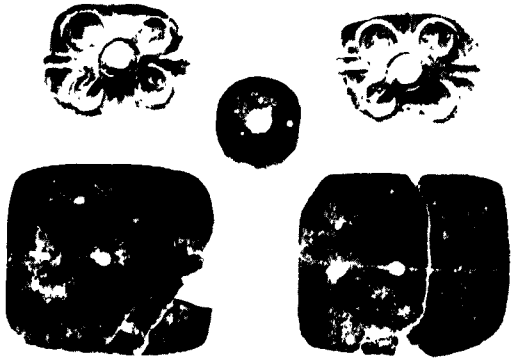


FIG. 2.—JADE ORNAMENTS. $\frac{3}{4}$.
(THE TWO ROSETTES ARE RESTORED.) LUBAANTUN.



FIG. 3.—"ECCENTRIC" CHERT BLADES. $\frac{1}{2}$. LUBAANTUN.

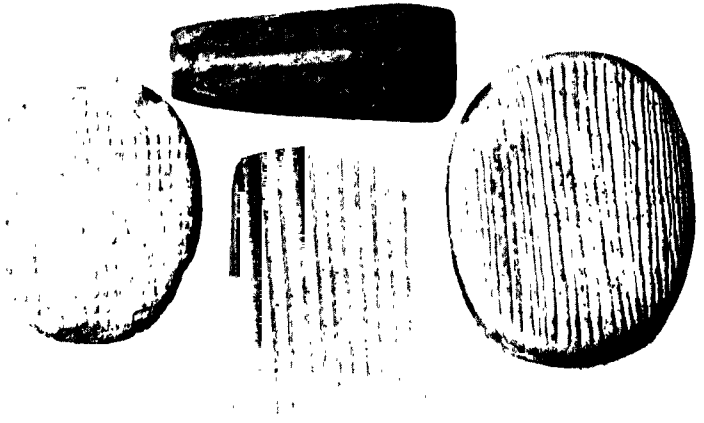


FIG. 4.—GROOVED STONE BEATERS, ETC. ABOUT $\frac{1}{2}$. LUBAANTUN.

A comparatively large excavation in Mound B produced no results, and a shaft sunk in the summit of C was equally unproductive.

In A, one or two stone implements of good quality were found.

Tentative excavations in T and U yielded no results, and it was not until we turned our attention to the small Mound E that we discovered anything of any considerable interest. This mound proved to contain a stone-built chamber of fairly good masonry, and roofed with the typical Maya arch. The slabs spanning the summit of the arch were large, and several of them were of slate, a material very rare in Maya architecture. The whole building had been filled with rubble

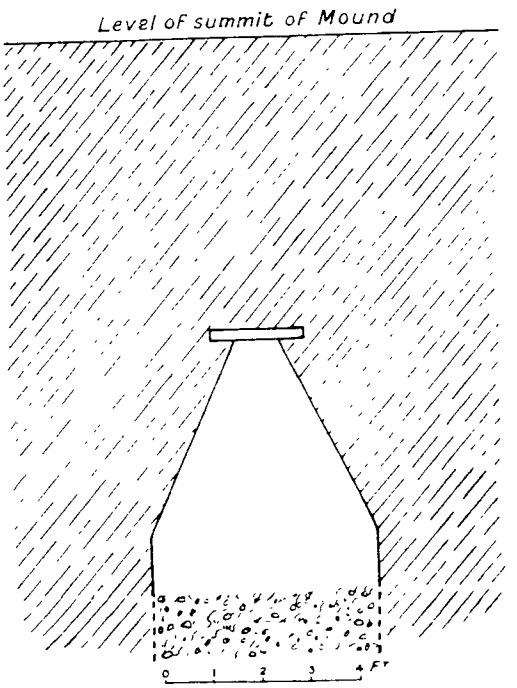


FIG. 8.—SECTION OF BURIED CHAMBER EXCAVATED IN MOUND E.

and earth before the mound had been built over it. Most unfortunately we only made the discovery the day before we were obliged to leave the site, and we were unable to clear the chamber completely in the time: consequently we did not reach the floor and the possible remains that may be lying there. All we could do in the time was to clear down to a foot or so below the spring of the arch for a length of some 8 feet. The arch measures 4 feet 7 inches from the spring to the cap-stones, and the cap-stones themselves lie some 6 feet 6 inches below the top of the mound. It was most disappointing to be obliged to leave the excavation incomplete. Owing to conditions of light no photograph was possible, but I append a section to scale of the building as far as excavated (Fig. 8).

THE REGULATION OF MARRIAGE IN AMBRYM.

By A. Bernard Deacon.

[Mr. A. Bernard Deacon was a brilliant student at Cambridge who took the Anthropological Tripos in 1925. While still an undergraduate he wrote a paper on "The Kakihan Society of Ceram and New Guinea Initiation Cults," which was published in *Folk-Lore*, vol. xxxvi. 1925. After taking his degree he was appointed to the Anthony Wilkin travelling studentship to undertake anthropological investigations in the New Hebrides. Early in 1926 he arrived at Malekula where he worked for a year in the western part of the island. He found that local conditions were unsatisfactory, as contact with Europeans had thoroughly disorganized native life. The people were largely demoralized and were dying off at an alarming rate. Deacon did what he could to recover what was so rapidly disappearing, and he had the tantalizing experience of knowing that highly important information was to be obtained from one or two old men who were unwilling or unable at that particular time to impart it.

After he had finished his time in Malekula, and packed up his specimens, he was waiting for the steamer to call to take him off to Sydney, where he had been appointed University Lecturer in Ethnology, when suddenly he was stricken with blackwater fever and died on March 12th, 1927, after a few days' illness. The loss to our science is very great, as there is every reason to believe that Deacon would soon have been recognized as a field-worker of the first class, and there is no doubt that he would also have proved to be equally eminent in a wider sphere of research. Besides his work in Malekula, he obtained sociological information from members of other islands of the northern New Hebrides. Following up indications which seemed to him of importance he made personal investigations in Ambrym, and there he found that marriage was regulated by a division of the community into six matrimonial classes. Rightly appreciating that this was a discovery of great importance, he sent a brief account of it to Mr. W. E. Armstrong and myself, and also to Professor A. R. Radcliffe-Brown in Sydney. I wrote out to him that Professor T. T. Barnard had inferred something of the same sort from the information he had obtained during his field-work in Santo, but that he had not yet published his account. Later, Deacon wrote the following paper, which fully proves and documents his independent discovery of this social system.

In the special circumstances, I regard it not only reasonable, but as a duty to the memory of Deacon, to publish the paper as he had written it. I submitted the MSS. to Mrs. Seligman and Miss C. H. Wedgwood to prepare it for publication.

Actually there was little to do in this respect; in a few passages a slight rearrangement proved desirable for greater clarity, but nothing has been omitted, modified, or added.

This is the first-fruit of Deacon's field-work. While in the New Hebrides he sent me copies and abstracts of many of his notes, and from these it is evident that he made careful detailed investigations into the sociology and the socio-religious life of various peoples in Malekula: nor did he neglect their material culture and physical anthropology. When all his notes and photographs arrive they will, in due course, be published in book form, with the minimum amount of necessary editing.—A. C. HADDON.]

DR. RIVERS, from analyses of Melanesian relationship systems concluded that "there is evidence for three different kinds of marriage in Melanesia, all very anomalous and extraordinary from the civilized point of view":—*

(1) Marriage with the wife of the father's father.
(2) Marriage with the brother's daughter's daughter.
(3) Marriage with the mother's brother's widow or wife.

The proviso is added, for marriages (1) and (2), "or [with] a woman having the same status as this relative."†

It must be pointed out that the first two forms of marriage are hypothetical, in so far at least as the terms are used in the English (non-classificatory) sense. The third form actually exists, but *only* as the inheritance of the mother's brother's widow, and therefore not in the classificatory sense.

The marriage of type (1) was postulated by Rivers for Fiji, and Buin in the Solomons. In both these places the father's father is classed with the elder brother, *i.e.* alternate generations in the male line are classed together, and in Fiji the son's wife is classed with the mother. (The term for son's wife in Buin was not obtained.)

The classing together of alternate generations, with patrilineal descent, and marriage with a woman having the status of father's father's wife, suggest, I think, the possibility of some class-system of marriage, in which a man and his father's father, being of one class, both marry women of a given class. Personally I am inclined to go further, and say that if classificatory F.F.W. marriage was practised to such an extent as "to give rise" to a definite relationship system, then it must have been the accompaniment, or rather the function, of a definite system of marriage classes. It seems to me that Rivers' deduction of his relationship systems from certain forms of marriage involves the assumption that the marriages in question are, or were at one period, as general and as uniform as are the relationship systems. Such uniformity I cannot conceive to be possible without some system of marriage

* *The History of Melanesian Society*, vol. ii, 1914, p. 58.
† *Op. cit.*, vol. ii, p. 56.

classes. Without some such system, I cannot see that the marriages in question would have led to anything but hopeless confusion. So much for speculation.

In 1914 Rivers visited Ambrym, and found that here also alternate generations in the male line were classed together as in Fiji and Buin. I determined, therefore, when I came out, to seek an opportunity of visiting Ambrym and going more deeply into the marriage regulations in that island.

Before setting forth the results some reference must be made to the two forms of marriage found by Rivers in Pentecost. These are of types (2) and (3). Marriage of type (3) may be said to be general in those areas of the New Hebrides where the simple dual organization (A = B) with matrilineal descent is present (*e.g.* Mota, Santo (N.W. and W.), Leper's Island, Aurora, N. Pentecost, and perhaps Torres Islands).* uncomplicated, so far as is known, by marriage classes within the moieties.

Now in N. Pentecost, Rivers, searching for an explanation of the anomalous features of the relationship system, hit on the remark made by an informant (not a native of Pentecost) that in this island men "married their granddaughters"†—a brother's daughter's daughter, as it appeared to Rivers. But in N. Pentecost, as in Leper's Island, Santo, and other areas of M.B.W. marriage, the mother's brother's children are classed as own children, and the mother's brother's children's children as own grandchildren, so that the M.B.D.D., for example, is called "granddaughter." It does not seem to have occurred to Rivers that a man, in marrying his granddaughter, *i.e.* his "daughter's daughter," might really be marrying his M.B.D.D., *i.e.* that granddaughter marriage might really be M.B.D.D. marriage, giving the appearance of granddaughter marriage by the fact that M.B.'s children are "own children"; while in Leper's Island, a few miles away, the M.B. is called "elder brother." ‡

Working with men from Leper's Island and N. Pentecost, I found that marriage with the M.B.D.D. and the F.Sis.D.D. is practised in both areas, and, nearly a year ago § I found the same type of marriage in Santo. In all these areas, owing to M.B.W. marriage, these marriages have the appearance of "granddaughter" marriage. (I could find no trace of marriage with the daughter's daughter.) It appears, therefore, that these areas of the dual organization with matrilineal descent are characterized by marriage, not with the daughter's daughter, but with M.B.D.D. and F.Sis.D.D. Barnard, I believe, came to the same conclusion.‖

* For probable existence of the dual organization in Torres Islands, see *op. cit.*, vol. i, pp. 176–7.—[Eds.]

† *Op. cit.*, vol. i, p. 199.

‡ Rivers writes: "It would therefore seem that the marriage which has had as its consequence the remarkable series of correspondences I have recorded was with the granddaughter of the brother rather than with the granddaughter herself, and on general grounds the former kind of marriage is of course far more probable." (*Op. cit.*, vol. i, p. 203.)—[Eds.]

§ Written in December, 1926.—[Eds.]

‖ This information Deacon had heard indirectly. Professor F. T. Barnard has not yet published the results of his investigations in the New Hebrides.—[Eds.]

Marriage with the M.B. widow, found in the same areas, seems to me to belong to a different category. It is certainly a form of the levirate, on a par with a man's inheritance of his elder brother's wife. (Possibly it may be connected with the sharing of property between M.B. and sister's son, and inheritance of his uncle's property by the latter.) What I think is most important is the incompatibility of M.B.W. marriage with any system of matrimonial classes, such as those of Australia, for example. This incompatibility led Rivers to say that "it seems impossible to derive the peculiar Melanesian marriages directly from the matrimonial classes of Australia," though "there are certain striking resemblances . . . which suggest some fundamental community of nature." *

In distinction from the M.B.W. marriage, that with the M.B.D.D. and F.Sis.D.D., found in areas where the dual organization with matrilineal descent is present, does suggest the possibility, even the probability, of derivation from some system of matrimonial classes within the moieties. It seemed to me, then, that if an area could be found where F.Sis.D.D. and M.B.D.D. marriage were practised, but not that with the M.B.W., it would be in this area that the class-system which might have given rise to F.Sis.D.D. and M.B.D.D. marriage should be sought. Ambrym is such an area.

The conjunction of the classing together of alternate generations in the male line, with the marriage with the F.Sis.D.D. and the M.B.D.D. strengthened my determination to get to the bottom of marriage regulations in Ambrym. It forced itself upon me that if some basic social organization of the type of the Australian class-systems could be found in Ambrym, it would throw light on the whole question of anomalous marriages and relationship systems in Melanesia. At least it might help to clear a way through the logical impasse to which I referred above.

I collected relationship systems from four linguistically distinct districts in Ambrym. From each district I collected pedigrees.† My surest evidence came, however, from the remarkably lucid exposition of the class-system by the natives themselves. Even without relationship systems and pedigrees, this exposition would suffice to establish the existence and structure of the matrimonial class organization in Ambrym.

In the first pedigree a case occurred in which a brother and a sister married another couple of sister and brother, both couples of brother and sister being related by real and not classificatory relationship; in the second, a case occurred of marriage with the F.Sis.D.D. (own, not classificatory). My informant then volunteered the information that both these marriages were "always practised," *i.e.* the rule. It was evident that he was thinking now in terms of classificatory relationships.

* *Op. cit.*, vol. ii, p. 67.

† Of the four lists of terms, the two most complete, those from Ranon in the north and Balap in the south-west, are printed at the end of this paper, together with the pedigree of Torere of Ranon, the only one which Deacon sent to England. It is hoped to publish the other lists of terms and pedigrees in a volume containing the results of all his field-work.—[EDS.]

In attempting to explain the regulation of marriage in his district (Balap), he said that a man's (classificatory) M.B. would take that man's daughter as wife. This he expressed again by saying that a man always married a woman of his F.M.'s "line" (the reciprocal marriage). He further volunteered the remark that a man married a woman of his mother's mother's "tribe" (my informant is a mission scholar), but not of her "line" in that "tribe." I then spent some time working out, with the help of the pedigrees, the meaning of "line" and "tribe."

The population is divided into three "tribes," called "*buelem*" at Balap, and "*buelim*" at Ranon. Descent in the *buelem* is patrilineal: a man, his father, his father's father, son, son's son, and the children of all these, belong to his own *buelem*, similarly all classificatory fathers, fathers' sisters, brothers and sisters in this district. Each *buelem*, however, is divided into two sides, or "lines" such that a man, his father's father, his son's son (and sisters of all these) belong to his "line," while his father, his son, and his son's son's son belong to his father's "line," all in the same *buelem*. This two-line structure causes the father's father to be called "brother," etc. The three *buelem* are referred to by a man as—

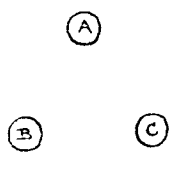
(1) "My *buelem*."
(2) "My mother's *buelem*."
(3) "My mother's mother's *buelem*."

The mother's mother's mother, it was stated, "came back" to a man's own *buelem*, and to his own "line" in that *buelem*, and she is called "sister."

On two separate occasions I was given a diagrammatic representation of the working of the system *

(I.)—My informant placed three large white stones to form the apices of an equilateral triangle. Each stone he said represented one *buelem*. (Diagram I.) Then, if a woman of A married a man of C, her daughter in C

Diagram I

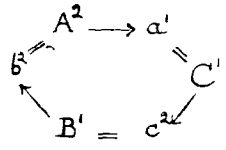


would marry a man of B, her daughter's daughter in B would marry a man of A again, a man of her M.M.F.'s "line."

* In a letter to Dr. Haddon, Deacon wrote, concerning these diagrams: "It is perfectly clear that the natives (the intelligent ones) do conceive of the system as a connected mechanism which they can represent by diagrams . . . The way they could reason about relationships from their diagrams was absolutely on a par with a good scientific exposition in a lecture-room."

It is evident from this that the system may be represented by Diagram II; for if the original woman in A belongs to the "line" A^1 in A and marries into "line" C^1 in C, her daughter will be C^2. If this daughter C^2 marries into "line" B^1 in B her daughter will be B^2. This girl B^2 marries into A.

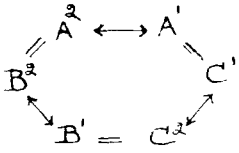
Diagram II.



Now she marries into her M.M.F.'s "line." Her M.M.'s "line" being A^1, her M.M.F.'s "line" must be A^2. So B^2 marries A^2, and we get the scheme: A^1 marries C^1; C^2 marries B^1; B^2 marries A^2; with the further proviso that $A^1 \longleftrightarrow A^2$; $B^1 \longleftrightarrow B^2$; $C^1 \longleftrightarrow C^2$ (alternate generations within the *buelem*), where the relationship between fathers and children is represented by $\rightarrow$. Thus the marriage system may be illustrated by Diagram III.

It is evident why the *buelem* are referred to as "my own, my mother's and my mother's mother's *buelem*."

Diagram III.



(II.)—A second diagrammatic illustration of the working of the system was given to me as follows:—

> My informant drew three very long lines (D. E. F).* each representing a man in each of the three *buelem*. Each of these three married and had

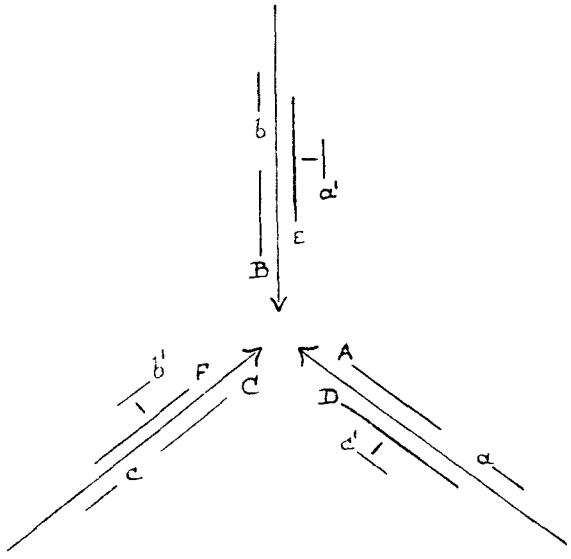
* In reproducing these two diagrammatic illustrations of the natives, Deacon used the same series of letters, A, B, C, etc., but it is important to notice that they do not represent the same people or groups of people. They may be correlated thus:—

Diagrams I to III.		Diagrams IV and V.
A^1	equates with	E
A^2	"	B
B^1	"	C
B^2	"	F
C^1	"	A
C^2	"	D

—[EDS.]

a boy and a girl; the children belonged to the other "line" of each father's *bwelem*. Thus D marries c^1, and has children A and a in the opposite "line" of his *bwelem*: similarly, E marries a^1, and has offspring B. b; and F marries b^1, and has offspring C. c. (*See* Diagram IV.)

Diagram IV



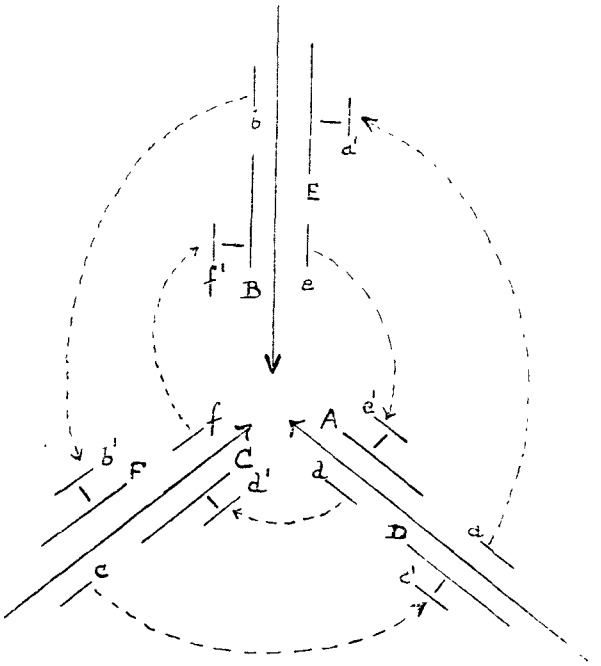
Long strokes represent men, short strokes women.
The divisions between the two "lines" of the
bwelem are indicated by the long strokes ⟶
coming together at the centre of the figure

Now my informant proceeded to explain that a^1 was really a, b^1 b, and c^1 c. That is to say, that E really married a woman of "line" A, a; F a woman of "line" B, b; and D of "line" C, c. He emphasized here that marriage went round the *bwelem* in two directions—clockwise and counter-clockwise. One lot going round counter-clockwise (as he indicated, by drawing lines from a to a^1 showing the passage of a to her husband, E, from b to b^1, and c to c^1) was indicated, but, as he pointed out, there were men left, A, B, and C, who had no wives. But he explained now, that since E took a, a's brother, A, would take E's sister, c; a sister, e, was duly marked for E and she was married to A. Similarly, C would take D's sister, and B F's sister: the marriages, as he explained, now "going round the other way," as he showed in Diagram V.

He now proceeded to point out that the children of the newly married couples (A. e^1; B. f^1: and C. d^1) would have children in the "lines" of the original men, D. E. and F, respectively: that, for example, the child of the marriage $A = e^1$ would be a brother or sister of D, and would therefore again marry, like D, a woman who was a sister of C.

This was the system as explained at Balap. It is evident that the system of relationships deducible from it is in complete agreement with that actually found at Balap. In the two * points where there is a slight divergence, my informant forestalled my own observation of the fact by pointing out that some things were "not

Diagram V



straight" about the system. The discrepancy lay in the fact that, although the terms "*Misyak*," "*Metou*," "*Terian*," "*Tata*," "*Könmasian*" were strictly limited each to one *bwelem* and to one "line" in that *bwelem*, the term "*Vava*" occurred (he said) in all "lines," which was "not straight." Though it is incorrect to say that it occurs in all "lines," it is very nearly true, and the consciousness of this irregularity, besides being a great tribute to the man's intelligence, is an additional proof of the correctness of the system.† "*Nuk*," he said, was another term that was

* Actually there are three divergencies (*see* below, p. 333 *n.*).—[EDS.]

† Actually it occurs, when used by a man, in both "lines" of his M.M.'s *bwelem* and in his own "line" of his M.'s *bwelem*. When used by a woman it occurs only in one "line" of her M.'s and her M.M.'s *bwelem*. (*See* "Lists of Terms.")—[EDS.]

"not straight." It will be seen that, owing to the wife's mother being called "*Nink*," both F.Sis. and F.Sis.D. receive the same term, though "*Vavu*," optional for F.Sis.D., cannot be applied to F.Sis.

In North Ambrym (Ranon) the system, though structurally the same, wears a new aspect by the recognition of matrilineal as well as patrilineal descent. The community is divided into three *bwalim* or *fwatun*, similar to the *bwelem* of Balap, in which descent is patrilineal. Each of these is subdivided into two *wor* or *veruchel*, which resemble the two "lines" of Balap. Membership of these is regulated in such a way that, while a man, his father, his children, his father's father, and his son's children all belong to the same *bwalim*, only alternate generations belong to the same *wor* of that *bwalim*. The community is further divided into two *batatun* with matrilineal descent, and each *batatun* is composed of one *wor* from each of the three *bwalim*. Thus, if A, B, and C are the three *bwalim*, and A^1, A^2; B^1, B^2; C^1, C^2

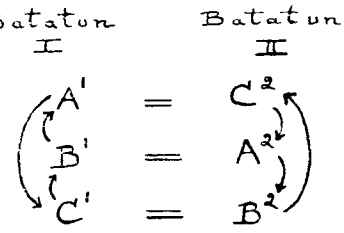


Diagram XI

Relationship between Mother and children indicated by →

are the six *wor*, then A^1, B^1, C^1 form one *batatun*, A^2, B^2, C^2 the other. A man and his father belong one to one, the other to the other *batatun*, but a man, his mother, his mother's mother, etc., are all members of one *batatun*. As it was expressed, a man's *Talig*, *Mosyug*, and *Yeleg* belong to his *batatun*, while his *Tete*, *Ving* and *Tivyug* belong to the other.*

The regulation is that a man always marries into a certain *bwalim*, his mother's mother's, but a woman in that *bwalim* who is not of his own *batatun*. In fact, on the face of it, the system of Ranon would be easy to mistake for an ordinary non-class dual organization, since the loose general statement of the native there is that he must marry a woman of the other *batatun*, and may not marry one of his own.

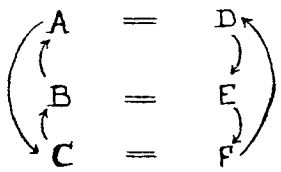
It is interesting that at Balap, in the south-west of Ambrym, this matrilineal fissure of the community into two groups appears to be absent, or only slightly developed. In North Ambrym it would be difficult to say which mode of descent is followed. The *batatun* and *bwalim* seem to be more or less equally important

* This is not quite accurate, however, for the term "*Tivyug*" is used for the mother's mother, who belongs to a man's own *batatun*. (*See* "Lists of Terms.")—[Eds.]

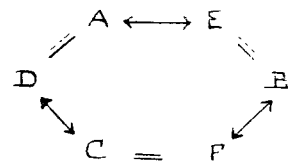
groupings in the native mind, so that descent is really both patrilineal and matrilineal equally. Perhaps the system of North Ambrym is better expressed by Diagram VI than by the previous diagrams. It will be seen that the marriages with the F.Sis.D.D., M.B.D.D. and into the line of the M.M.F. referred to at the outset of the enquiry, all work out correctly on the above systems.

I may note that I have tested the system out on a number of genealogies, grouping all the members of them into their *buelem*, *batatun* and "lines," and have so far encountered no single exception to its working. But, perhaps, the most overwhelming evidence of its existence is the astonishingly clear and complete explanation given me, voluntarily and without any suggestion on my part, in the diagrams with stones and sticks by my Balap informants. It is plain, then, as a result of the foregoing analysis, that there is present in Ambrym a matrimonial six-class system.

Descent in Malekula, Epi, and Ambrym is generally described as patrilineal. In all the islands north of these, however, *i.e.* throughout the area of the pure (A = B) dual organization, it is matrilineal. Now it is just in North Ambrym, an area in the patrilineal islands, closest to the matrilineal area, that the six-class system is a combination of—*



and



With matrilineal descent in the Batatun

I

With patrilineal descent in the Bwulim.

II

Evidently (I) is closely connected with the dual organization (A = B) with the F.Sis.D.D. marriage of the northern islands, Santo, Leper's, Pentecost, etc. I would in fact, suggest that the original dual organization of these northern islands was of the type (I), but that, owing to the development of the M.B.W. marriage, the system collapsed to a simple dual organization (A = B), the F.Sis.D.D. marriage, however surviving as a custom merely, the system that gave rise to it having been destroyed. In Ambrym the patrilineal descent is probably a later, immigrant, influence. The transformation appears to have been gradual from (I) to (II), from the system matrilineally interpreted, to the patrilineal version of South Ambrym. The fact of it being a class-system enabled the transformation to patrilineal descent to take place without breaking up the organization: a most interesting case of such transition. It can, I think, hardly be doubted that the original form was (I), a dual

* These letters A—F have no relation to the similar series employed for Balap in Diagrams IV and V.—[EDS.]

organization with matrilineal descent, and not the form (II). The form (I), in fact, I regard as the parent, on the one hand, of the non-class dual organization of the north (Banks, Santo, Leper's Isle, Aurora, N. Pentecost) with the survival of the M.B.D.D. and F.Sis.D.D. marriage, wrongly interpreted by Rivers as "granddaughter" marriage: and, on the other hand, of the peculiar system (II) of West, South, and probably East Ambrym.

In Malekula the terminology and custom show that the M.B.W. marriage is general. Presumably, therefore, the "patrilineal immigrants," or influence, which changed descent in Epi, Malekula, and Ambrym, encountered in Malekula not the class-system (I) that it found in Ambrym, but a collapsed dual organization with M.B.W. marriage, so that the gradual recognition of ties with the father could not give rise to the *buyalum* or *buchum*, patrilineal groups with alternating descent, found in Ambrym. The system on Paama, south-east of Ambrym is apparently the same as on Ambrym, for the relationship system I found to be the same, and M.B.W. marriage or any trace of it is quite absent. Moreover, the natives say that the marriage regulations are the same as in Ambrym. In Epi, cross-cousin marriage seems to be the rule: the relationship system is in agreement with it, and instances occur in pedigrees. Descent is patrilineal in local village groups.*

Rivers' theory of Melanesian gerontocracy will, I think, have to be modified. In *The History of Melanesian Society* (vol. ii. p. 67) he says: "It seems impossible to derive the peculiar Melanesian marriages directly from the matrimonial classes of Australia. . . . Attempts . . . to explain the Melanesian marriage having thus broken down, I propose to assume that the marriages in question have arisen in the way I have supposed [dominance of the elder men]."

But, though they cannot be derived from the *Australian* matrimonial classes, I consider that they *can* probably be derived from the North Ambrym class-system.

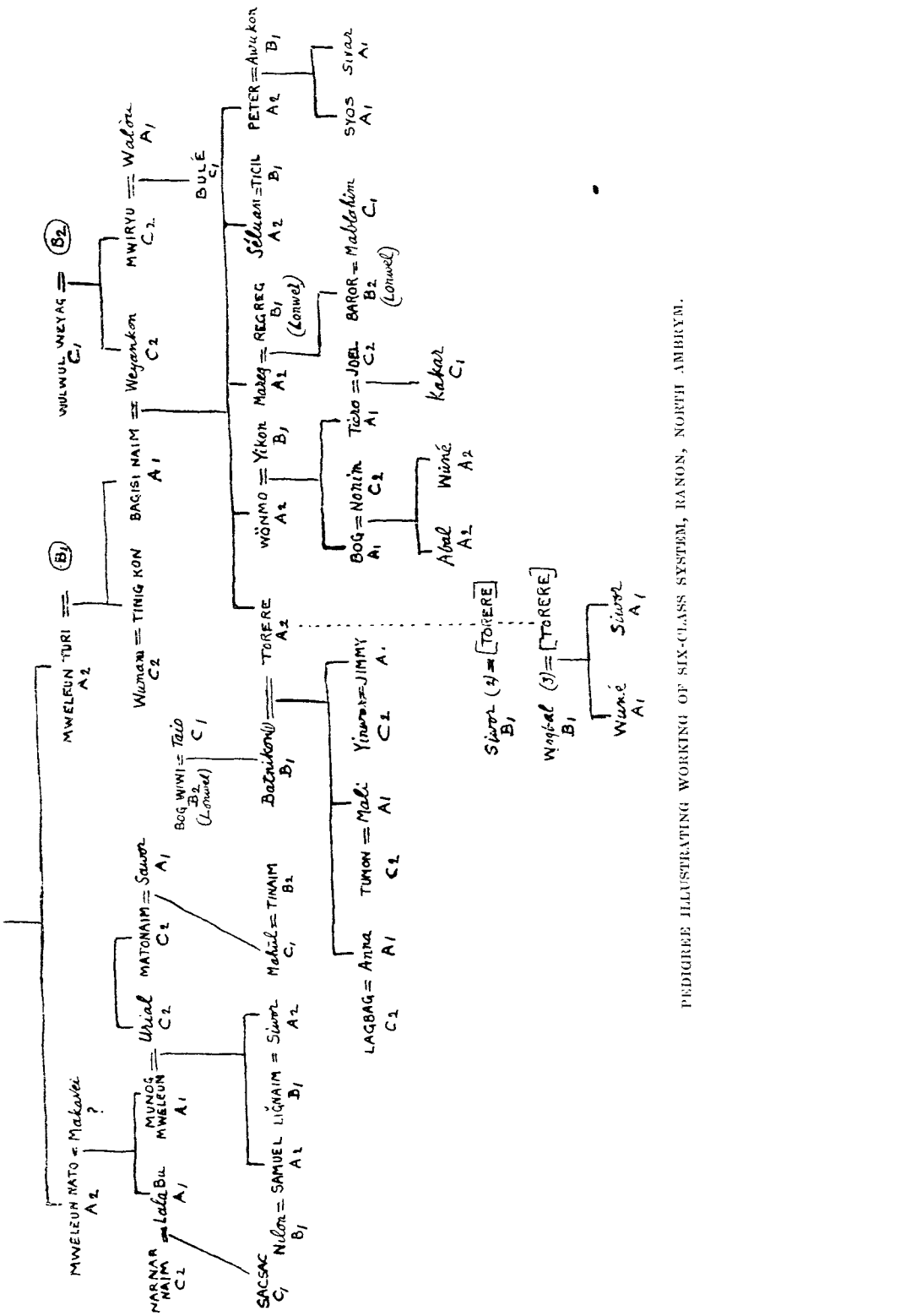
Abbreviations Employed.

F.	= Father.	eB.	= Elder brother.
M.	= Mother.	eSis.	= = Elder sister.
B.	Brother.	F F.	= Father's father.
Sis.	Sister.	F.M.	= Father's mother.
H.	= Husband.	F.Sis.D.D.	Father's sister's daughter's daughter, and similarly for other combinations.
W.	Wife.		
S.	Son.	yB.	= Younger brother.
D.	= Daughter.	ySis.	= = Younger sister.
		[m.s.]	= = Man speaking.
		[w.s.]	= = Woman speaking.

* Communicated in a letter to Dr. Haddon. In the article, Deacon writes that he has not yet ascertained the relationship system in Epi.—[Eds.]

List showing the Terms used by Torere (*bwulum* A : *bitatun* 2) in reference to individuals included in the Genealogy.

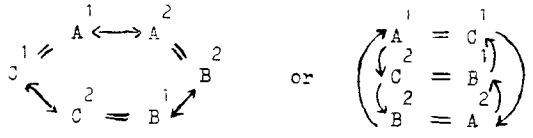
Mwiryu ..	M.B. . ..			
Joel .. .	B.D.H.			
Tumon ..	yD.H. . .	*Mosyag*	♂	of C2.
Lagbag ..	eD.H.			
Nainar Naim .	F.F.B.D.H. ..			
Mato Naim ..	F.F.B S.W.B ..			
Weyankon .	M.			
Nonim . ..	B.S.W. ..	*Rabeg*	..	♀ of C2.
Yinwor ..	S.W.			
Wumam ..	F.B.W.			
Bogwiwi ..	W.F.			
Baror ..	ySis.S. *Wungag*	*Yeleg*	..	♂ of B2.
Tinaim .	F.F.B.S.W.B.D.H.			
Wulwulweyag	M.F.			
Mahul	F.F.B.S.W.B.D.	*Tegeg*	..	♀ of C1.
Bule	M.B.S.			
Kakar ..	B.D.D.			
Mablahim ..	Sis.S.W.	*Mabgag*	..	♀ of C1.
Saesae ..	F.F.B.D.S. ..			
Taio	W.M.	*Wungag*	..	♀ of C1.
Regreg ..	ySis.H.	*Ving*	..	♂ of B1.
Ticil	ySis.H.			
Batnikon ..	W. .. .			
Yikon	yB.W.	*Mweneg Vehen*	?	of B1.
Awukon ..	yst.B.W. ..			
Nilon	F.F.B.S.S.W. ..			



PEDIGREE ILLUSTRATING WORKING OF SIX-CLASS SYSTEM, RANON, NORTH AMBRYM.

Relationship Terms of Balap, South-West Ambrym.

There are three *bwelem*, A, B, C, each divided into two "lines," such that a man, his F.F., and his S.S. and S.D. belong to one; his F. and his S. and D. to the other. Descent is patrilineal. The rules of marriage may be represented thus:- *



—→ denotes relationship between fathers and children.
⌒→ denotes relationship between mothers and children.

(I.)— *Terms relating to members of one "line" of one* bwelem *only.*

(1) Man of *bwelem* A. "line" A2, speaking:—

Bwelem A	*Tata*	F., F.F.F.	♂ of A1.
	Netuk	S., D., S.S.S., S.S.D.	♀ of A1.
	Könmasian	e. & yB., W.e. & ySis.H., F.F.	♂ of A2.
	Vevenakali	e. & ySis., M.M.M.	♀ of A2.
B	*Metou*	Sis.S., Sis.D., W.B.S., W.B.D., W.F.	♀ of B1.
	Sŏŋ Tevian	F.Sis.D.S., e. & ySis.H., M.M.B.S., W.e. & yB.	♂ of B2.
	Fiok	M.M.B.S., W.e. & yB.	♂ of B2.
	Sŏŋ Vaven	W., F.Sis.D.D., e. & yB.W., M.M.B.D. †	♀ of B2.
C	*Misgok*	F.Sis.H., M.B., D.H.	♂ of C1.
	Nana	M., S.W.	♀ of C1.

(2) Woman of *bwelem* A. "line" A2, speaking:—

Bwelem A	*Tata*	F., B.S., H.Sis.S.	♂ of A1.
	Mamakali	e. & yB., D.D.S.	♂ of A2.
	Könmasian	e. & ySis., H.e. & yB.W. ‡	♀ of A2.
B	*Netuk*	S., D., H.F.	♀ of B1.
	Sŏŋ Tovor	H., F.Sis.D.S., e. & ySis.H., H.yB. § M.M.B.S.	♂ of B2.
	Evgok	F.Sis.D.D., e. & yB.W., M.M.B.D., H.e. & ySis.	♀ of B2.

* *Cf.* Diagram III, p. 330.

† M.B.D.D. is not recorded here, but we feel sure that this omission was an oversight, both by comparison with the terms from Ranon and from the whole argument of the paper.—[Eds.]
Though not recorded, this is probably also the term for M.M.M. (Cf. *Vevenakali* [m.s.].)

§ Though not distinctly stated, the term also almost certainly includes the "H.eB."

Bwelem C .. { *Misguk* . M.B., F.Sis.H. .. ♂ of C1.
Nana . M. ♀ of C1.
Vugul S.W. ♀ of C2.

(II.)—*Terms relating to members of more than one* bwelem.

(1) Man of *bwelem* A. "line" A2. speaking:—

Natuk { F.Sis., M.B.W. ♀ of A1.
F.Sis.D., W.M. ♀ of C2.

Membyag .. . { S.S., S.D. ♂ of A2.
D.S., D.D. ♂ of C2.

Vava { F.Sis.S., F.Sis.D., M.B.S., M.B.D., W.M., M.F. ♀ of C2.
F.M. ♀ of B2.
M.M. ♀ of B1.

(2) Woman of *bwelem* A. "line" A2. speaking:—

Natuk { F.Sis., B.D., H.Sis.D., M.B.W. . . ♀ of A1.
F.Sis.D. ♀ of C2.

Membyag { S.S., S.D. ♂ of B2.
D.S., D.D. ♀ of C1.

Vava { F.Sis.S., F.Sis.D., M.B.S., M.B.D., H.M., D.H. ♀ of C2.
F.F. ♂ of A2.

Note.—F.Sis.D. and W.M. [m.s.] are called both "*Natuk*" and "*Vava*." F.Sis.D. [w.s.] is called both "*Natuk*" and "*Vava*." In both cases they are women of C2.

Of the terms in group (I), "*Natuk*" is used by men and women for their own children, and other persons who fall within the class of which their children are members. "*Tata*," "*Misguk*," and "*Nana*" are used by both sexes for F., F.Sis.H., M.B., and M., respectively. "*Kōnmasian*" is only used between members of the same sex (the corresponding terms being "*Veenakali*" [m.s.] and "*Mauakali*" [w.s.]).

The terms in group (II) appear to be used for people in virtue of their kinship to the speaker, rather than their membership of a certain *bwelem* or "line."

It is curious and unfortunate that there is no record of the terms used for F.B. or M.Sis.—[C. H. W.]

Relationship Terms of Ranon, North Ambrym.

There are three *bwulim*, each divided into two *wor*, which are grouped into two *batatun*. Descent is patrilineal in the *bwulim*, matrilineal in the *batatun*, and a child belongs to the other *wor* in the *bwulim* from that of his father. A man marries into his M.M.'s *bwulim* but not into his own *batatun*. Marriage and descent may be represented thus :—*



—→ denotes relationship between fathers and children.
⌒↘ denotes relationship between mothers and children.

[*Note.*—The figures (1) and (2) refer, not to the *wor* (corresponding to the "lines" of Balap), but to the *batatun*.]

(I.)—*Terms relating to members of one* bwulim *only.*

(1) Man of class A2 speaking :—

Terms for members of A2*'s own* batatun (2).

Bwulim A	*Tulig*	B., F.F., S.S., W.e. & ySis.H.	♂	of A2.
	Ivwangey	e. & ySis., M.M.M., W.e. & yB.W.	♀	of A2.
B	*Yeley*	Sis.S., W.F., W.B.S. [F.F.B.S.W.B.D.H.]*	♂	of B2.
		Sis.D., W.B.D.	♀	of B2.
C	*Mösyay*	M.B., F.Sis.H., D.H., B.D.H. [F.F.B.D.H.†, F.F.B.S.W.B.†]	♂	of C2.
	Rahey	M., S.W., B.S.W., F.B.W., F.Sis.S.D.	♀	of C2.

Terms for members of A2*'s father's* batatun (1).

Bwulim A	*Tata*	F., F.F.F.	♂	of A1.
	Ituay	F.Sis., M.B.W., B.D.	♀	of A1.
B	*Vuy*	e. & ySis.H., W.e. & yB., F.Sis.D.S., M.B.D.S., M.M.B.S.	♂	of B1.
	Mwemey Vehen	W., W.e. & ySis., e. & yB.W., Sis.S.D., M.B.D.D., F.Sis.D.D.	♀	of B1.

* *Cf.* Diagram VI, p. 333.

† *Cf.* p. 336. Tinaim, Narnar Naim, Mato Naim.

(2) Woman of class A2 speaking :—

Terms for members of A2*'s own* batatun (2).

Bwulim A	*Muweng Re*	e. & yB., H.Sis.H., F.F.	♂ of A2.
	Talig	e. & ySis., H.e. & yB W.	♀ of A2.
,, C	*Mösyag*	F.Sis.H., M.B.	♂ of C2.
	Raheg	M.	♀ of C2.

Terms for members of A2*'s father's* batatun (1).

Bwulim A	*Teta*	F., H.Sis.S., B.S.	♂ of A1.
	Itnag	F.Sis., H.Sis.D., B.D., M.B.W.	♀ of A1.
,, B	*Muweng Vanten*	H., e. & ySis.H., H.yB., F.M.B., M.M.B.S., M.B.D.S.	♂ of B1.
	Revyeg	eB.W., H.ySis.	♀ of B1.

(II.)—*Terms relating to members of more than one* bwulim *and* batatun.

(1) Man of A2 speaking :—

Tag	S., D., S.S.S., S.S.D.	♂ of A1.
Mavyag	B.D.D., Sis.S.W. [F.F.B.D.S.]*. F.Sis.S., F.Sis.D., D.S., D.D.	♂ of C1.
Tivyag	M.F., M.B.S., M.B.D. [F.F.B.S.W.B.D.]*	♂ of C1.
	e. & yB.W., F.M.	♀ of B1.
	M.M.	♀ of B2.
Wangag	W.M., F.Sis.D.	♀ of C1.
	W.F.	♂ of B2.
	D.H.	♂ of C2.

(2) Woman of A2 speaking :—

Tag	H.Sis.S.	♂ of A1.
	S., D., H.F.	♀ of B2.
Mavyag	F.Sis.S., F.Sis.D.	♂ of C1.
	S.S., S.D., H.e. & yB., e. & ySis.H.	♀ of B1.
	D.S., D.D.	♂ of C2.
Tivyag	e. & yB.W., H.Sis., M.B.D.D.	♀ of B1.
	M.B.S., M.B.D., D.H.	♂ of C1.
Wangag	S.W., H.M.	♀ of C1.

(As in the lists for Balap, no terms are given for M Sis. or F.B.)

* *Cf.* p. 336. Saesae, Mahul.

Note.—W.F. and D.H. [m.s.] are grouped with W.M. and F.Sis.D. as *Wungug*, but they are also referred to by the term used for other members of their respective classes, viz. *Yeleg* and *Mösgug*. *Talig* is used only between members of the same sex. Terms bearing the prefix "*mweneg*" are only used between members of different sexes, *e.g.* :—

Talig [m.s.] corresponds to *Mweneg Re* [w.s.].
Ierungeg [m.s.] corresponds to *Tulug* [w.s.].
Viag [m.s.] corresponds to *Mweneg Vanten* [w.s.].
Mweneg Veben [m.s.] corresponds to *Bergeg* [w.s.].

Thus, in group (I), the relationship terms, with the exception of *Veleg*, are different according to the sex of the person referred to. They appear also to concern those who are members of a certain class (*birulim* and *batatun* combined).

In group (II), they are used for people in virtue of their kinship to the speaker, it seems, rather than of their membership of any class, and are employed for men and women alike. [C. H. W.]

THE REGULATION OF MARRIAGE IN AMBRYM.

By A. R. Radcliffe-Brown.

Nothing reveals more clearly the loss that Anthropology has suffered by the death of Bernard Deacon than his discovery of a system of "classes" regulating marriage and kinship in Ambrym, not only by reason of the importance of that discovery, but also and particularly by reason of the way in which it was made as the confirmation of an acute reasoning that something of the sort should be there.

It seems worth while to add to Deacon's account of his discovery a brief discussion of the relation of this Ambrym kinship system to the systems of Australia.

The basis of the social organization of all Australian tribes about which we have adequate knowledge is a certain type of kinship organization which is correlated with a particular type of kinship terminology. In this type of terminology there are no terms for relatives by marriage. Kinship by descent is traced without any limit, and collateral relatives are classified with lineal relatives into a limited number of classes each denoted by one term. Every person with whom a given individual has any social dealings is a relative of one kind or another, near or distant. The regulation of marriage, therefore, takes the form of a rule that a man must marry some one particular kind of female relative. In a few Australian tribes (*e.g.* the Kariera and other tribes of Western Australia, and the tribes of Bathurst and Melville Islands and Port Darwin) the marriage rule is that of the cross-cousin marriage, that is, a man marries a woman who is classified with his mother's brother's daughter and his father's sister's daughter. Systems of this kind may be denoted as belonging to Type I. In a much larger number of tribes there is a more complex system, with a larger number of kinds of relatives distinguished by separate terms, and a marriage rule by which a man marries a woman who is classified with his mother's mother's brother's daughter's daughter. Such systems may be denoted as belonging to Type II.

Systems of Type I are found associated with a dual division into two moieties, as in the Worgait tribe (patrilineal), and possibly in the Ngarigo and Wolgal tribe (matrilineal); or with a division into four intermarrying sections, as in the Kariera; or with no named divisions at all, as in Bathurst and Melville Islands. Systems of Type II are found associated with (*a*) matrilineal dual division, as in the Dieri; (*b*) patrilineal dual division, as in the tribes of Victoria; (*c*) a division into four intermarrying sections, as in the Mardudhunera of Western Australia, the Southern Aranda, the Wongaibon of New South Wales, or the Warrai of the Northern Territory; (*d*) a division into eight subsections, as in the Warramunga and other tribes

of the Northern Territory and Western Australia: (*e*) with four named divisions, each of which consists of a couple of subsections, as in the Mara and Anula; (*f*) with two divisions, each of which consists of one intermarrying pair of sections; (*g*) in a slightly modified form, with no named kinship divisions at all, as in the Yaralde.

There is abundant evidence that the system of eight subsections has been developed out of that of four sections and is simply the systematization of the kinship system of Type II. The system of four sections is similarly a systematization of Type I, and may be best understood by regarding it as a double dual division of the tribe, a matrilineal and a patrilineal dichotomy combined together. Thus, if we have a tribe divided into two patrilineal moieties, X and Y, and also divided into two matrilineal moieties, 1 and 2, we shall get four distinct groups :—

A—those who are	X	and	1.	
B	..	Y	..	2.
C	..	Y	..	1.
D	..	X	..	2.

These four groups are the four sections of such an Australian tribe as the Kariera or the Southern Aranda.

It is fairly clear, therefore, that all the forms of social organization in Australia about which we have knowledge are derived from a kinship system of Type I, and we have seen that this may exist with or without a dual division.

If now we compare Australia with other regions, we find that kinship systems fundamentally the same as the Australian Type I are found throughout the Dravidian peoples of South India, and also in Ceylon, including the Vedda. On the other side, we find identical systems in a few scattered regions of Melanesia, in Vanua Levu, and the Koro sea-tribes of Viti Levu (Fiji), in Tanna of the New Hebrides, and in the Buin of Bougainville. In all these regions we find the simple rule of cross-cousin marriage.

It is clear also that there is some sort of correlation between this Dravidian-Australian kinship system, as I have been accustomed to call it, and the dual organization, but the nature of that correlation is not yet clear. Thus, while some of the tribes of South India seem to have a dual division, others have not, and in Australia kinship systems of this type exist without the dual division. There is, however, some ground for the argument, that wherever we find the dual organization in Melanesia, it was at some time in the past associated with a kinship system of the Australian-Dravidian type. And since in the simplest and normal form of this system the marriage rule is that of the cross-cousin marriage, we should have to regard this as the original form of marriage in the Melanesian regions of the dual division.

I do not forget that Rivers put forward a theory that the cross-cousin marriage in Melanesia arose from marriage with the mother's brother's widow or wife, but I do not find that he adduced, or tried to adduce, any evidence that this hypothetical

process has ever actually taken place. It is just as plausible to suppose that in Melanesian regions the marriage with the mother's brother's widow has replaced or ousted the cross-cousin marriage.

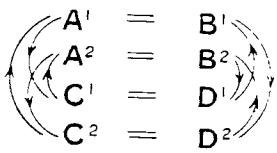
There is then a single general type of kinship organization (the Dravidian-Australian type) found over a large area of South India and Ceylon, over a great part, and perhaps over the whole of Australia, and in certain parts of Melanesia. Of this general type of organization there are a large number of varieties. It might well be argued that this is good evidence for the spread of a single culture over these regions: and, if this were so, the condition of Australian tribes would compel us to conclude that this culture-drift was a very ancient one, long anterior, for example, to the introduction of the ground-axe into Australia, and possibly dating back to the first peopling of Australia and Melanesia. The antiquity of the Dravidian-Australian kinship system is also suggested by the likelihood that it is from this system that the Indian caste system had its origin as a means of defining the circle beyond which kinship was not to be traced, and within which, therefore, marriage had to take place. I do not believe, however, that there is much profit in discussing such hypothetical reconstructions of the past, and I am more concerned to attempt to reach a sound sociological classification of the different varieties of the Dravidian-Australian system of which we have knowledge.

It should be noted that the kinship systems with which we are dealing trace kinship in both male and female lines, and trace it equally far in both lines. Relationship with the mother's brother is just as important as the relationship with the father's brother, and that with the father's sister is as important as with the mother's sister in the regulation of social behaviour. But the system is in most, if not all, instances accompanied by some unilateral grouping, either matrilineal or patrilineal. The simplest form of such unilateral grouping is the dual division, and in Australia we find a matrilineal dual division in two separated regions, and a patrilineal dual division in three separated regions. A unilateral kinship grouping tends to increase the social importance of kinship on one side at the expense of the other, and this is likely to lead to a certain instability in the social structure. This instability is overcome in many different ways in different parts of the world. Thus, in Ashanti and in the Ova-Herero, we have a double system of clans, one set matrilineal and the other patrilineal: and a similar double-clan system seems to have existed in some Australian tribes, *e.g.* the Dieri. The Australian organization into four sections provides a similar double grouping, the whole tribe being divided into two matrilineal moieties and also into two patrilineal moieties by this arrangement.

The Ambrym system discovered by Deacon is in certain respects similar to the Australian system of four sections. If we call the six divisions sections, and denote them as A^1, A^2, B^1, B^2, C^1, C^2, we see that A^1, B^1, and C^1 form a single matrilineal moiety, and A^2, B^2, and C^2 form the other moiety. In North Ambrym the existence of these moieties is recognized, and they are called *batatun*. The system also provides three

patrilineal groups (as against two of the Australian four-section system) called *bwulim* in North Ambrym. Each *bwulim* consists of a couple of sections A^1 and A^2, B^1 and B^2, C^1 and C^2. If a man belongs to one section his children belong to the other section of his couple. Deacon has noted that in this system "descent is both matrilineal and patrilineal equally," as it is in the Australian four-section system. There is, therefore, a definite similarity between the Ambrym system and the Kariera system, both in form and in function.

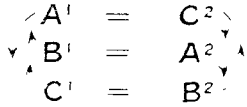
In the Ambrym system, however, the marriage of cross-cousins is avoided and made impossible, and in this respect it must be compared with the Australian system of Type II. Since the Type II system is most systematically elaborated in tribes with eight subsections, it is with these that we should make a comparison. When there are eight subsections, four of them constitute one matrilineal moiety and the remaining four constitute the other. Thus, in the diagram—*



if a woman is A^1 her daughter is C^1, her daughter's daughter is A^2, her daughter's daughter's daughter is C^2, and her daughter's daughter's daughter's daughter is A^1 like herself.

The eight subsections are also arranged into four patrilineal groups consisting of a couple of subsections. Thus, if a man is A^1, his son is D^2, and his son's son is A^1 like himself. The four couples are A^1 D^2, A^2 D^1, B^1 C^1, B^2 C^2.†

In the Ambrym system, as shown in the following diagram—



the sections A^1, B^1, C^1 constitute a matrilineal moiety. If a woman is A^1, her daughter is C^1, her daughter's daughter is B^1, and her daughter's daughter's daughter is A^1.

* In this diagram the letters stand for the subsections. The sign " " connects the subsections that intermarry in accordance with the ordinary marriage-rule of the tribe. The lines on each side of the diagram connect the subsection of a mother with that of her child, the arrow showing the direction in which the line is to be read. Thus, from the diagram it may be seen that a man of A^1 marries a woman of B^1 and the children are D^2, while a man of B^1 marries a woman of A^1 and the children are C^1.

† In the terminology that I have adopted for some years past the two subsections that intermarry are called a pair (A^1 and B^1); the two with alternating patrilineal descent are called a couple (A^1 and D^2); the four with alternating matrilineal descent are called a cycle (A^1–C^1–A^2–C^2). Thus each matrilineal moiety consists of one cycle. The subsections A^1 and A^2 together form a section. Each patrilineal moiety consists of two sections (A and D), therefore, of four subsections (A^1, A^2, D^1, D^2) or of two couples of subsections (A^1–D^2, A^2–D^1). In the North Aranda there are names for the subsections and also names for the patrilineal moieties. In the Mara and Anula tribe there are names for the four couples of subsections.

the return of the cycle being completed in three stages, instead of in four as in the Australian eight-subsection system. There are, therefore, only three patrilineal divisions—couples of sections in my terminology. If a man is A^1 his son is A^2, and his son's son is A^1: B^1–B^2 and C^1–C^2 are the other two couples.

Let us now compare the various marriage-rules of this system. In the Australian Type I. marriage is between cross-cousins, *i.e.* with mother's brother's child or father's sister's child. In the Australian Type II. marriage is between the children of two female cross-cousins. In the Ambrym system, a man may marry the following relatives:—

1. Mother's brother's daughter's daughter.
2. Father's sister's daughter's daughter.
3. Mother's mother's brother's daughter.
4. Mother's father's sister's daughter.
5. Father's father's sister's son's daughter.
6. Father's mother's brother's son's daughter.
7. Father's mother's sister.

In a letter to me, Deacon stated that out of sixty marriages recorded twelve were between relatives whose connections were traced, and of these, five were No. 3 above, two each of Nos. 1, 2, and 6, and one of No. 5.

It will be noticed from the above list that a man may marry either the daughter of his female cross-cousin (1 and 2) or the female cross-cousin of his mother (3 and 4), and that four of the twelve marriages are of the first type and five of the second.

Thus it would seem that if the Ambrym people originally had the simple form of the Australian-Dravidian system with cross-cousin marriage—a man marrying his *vavu*—the present system could have been produced by substituting for that form of marriage one with the daughter of the *vavu* or with the *vavu* of the mother. This is of interest, in view of the fact already mentioned that in Australia the change from Type I to Type II substitutes for cross-cousin marriage the marriage of the children of two female cross-cousins.

Deacon says nothing of the existence of any clans in Ambrym. It is worth while, however, to consider what would be the arrangement if there are any clans. With a system of matrilineal clans it would follow from the system, that while a man could not marry into his own (*i.e.* his mother's) clan or into any of the clans of his own moiety, he could marry into his father's clan, though not in his father's or his own generation in that clan, but only in the first descending generation (father's sister's daughter's daughter) or into the generation of his grandparents (father's mother's sister). On the other hand, if there is a system of patrilineal clans combined with the matrilineal dual division, a man would, of course, not marry into his own (his father's clan), and would also be prevented from marrying into his mother's clan. He could take a wife from his mother's mother's clan (mother's mother's

brother's son's daughter) or from his father's mother's clan (father's mother's son's daughter or father's mother's sister). This suggests to my mind the possible existence of such a system of patrilineal clans as a hypothesis to be tested in any future field-work in the same region.

Thus a comparison of the Ambrym systems with those of Australia suggests very strongly (1) that the Australian and Ambrym systems have developed, not one out of the other, but both from the same or a similar original system, which is one that is known to exist in parts of Melanesia as well as in India: (2) that the development of the two systems, while divergent, shows a striking similarity due presumably to the action of the same or similar sociological principles. These considerations seem to me to make the discovery of the Ambrym system one of capital importance for sociological theory as well as for ethnological theory.

With reference to the historical question, I am very sceptical as to the value of any attempt to reconstruct the history of Melanesia, at any rate at the present time, when we have a very scanty knowledge of Melanesian cultures and are almost completely ignorant of the sociological laws that control the development of culture, whether that development be internal within a given culture or the result of contact between two more or less diverse cultures. I will, therefore, do no more than repeat the remark that I made to Rivers when he was writing his *History of Melanesian Society*, that any attempt to surmise the early history of Melanesia, if it is to have any prospect of success, must give full consideration not only to New Guinea but also, and perhaps above all, to Australia, and must not neglect South India. Deacon's discovery confirms me in this opinion.

BILATERAL DESCENT AND THE FORMATION OF MARRIAGE CLASSES.

By Brenda Z. Seligman.

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Introduction.

There is probably no subject of greater importance to mankind than descent, in its three main aspects the biological, the religious, and the sociological.

To the savage the biological aspect is of little importance, for even those who understand physiological paternity know nothing of the mechanism of heredity, and such observations as they may make are frequently warped by the religious aspect of the subject. For instance, physical similarities are frequently believed to be due, not to common blood, but to the reincarnation of an ancestor.

The vast field of the religious aspect of descent, the influence of the spirit-world and reincarnation, as well as totemism, on social organization, is unfortunately beyond the scope of this paper, though it is clear that sociological understanding is retarded for want of better correlation of spiritual beliefs with law and custom. I propose here to deal only with the narrower sociological attitude, that is to say, the legal aspect of descent and its influence on incest, and therefore on the formation of exogamous groups.

In its narrower meaning descent defines birthright "membership of a social group," but all rules of succession and inheritance are dependent on the form of descent which prevails in a given society.

Ever since it has been my good fortune to do field-work the problems of descent have forced themselves upon my notice.[1] The simple idea held by the earlier anthropologists, that matrilineal and patrilineal principles respectively covered the whole field of sociology and were mutually exclusive, never seemed a satisfactory thesis. On this doctrine, when the patrilineal principle was seen to be active in a matrilineal society, it was easy to regard this as a transitional stage, and to attribute it either to the growing recognition of paternity or as due to culture-contact with a patrilineal people. To me it was always more difficult to account for matrilineal features in patrilineal society. To explain them as survivals means nothing at all, unless it means that the principle upon which these features depend has also survived; in other words, that the two seemingly antagonistic principles can be in action at the same time in one and the same culture. And it is to this opinion that modern anthropologists have been tending.[2] The natural outcome of this is, that more attention is now being paid to the family as a social unit—for the family is essentially a bilateral institution whichever way descent is reckoned—and somewhat less to the clan.

Attention to the family as the basic social unit was also drawn from another direction, viz., psycho-analysis. Whether we accept or reject Freud's main theory (and some of it is not easily acceptable by the anthropologist), the emphasis that his work has thrown on the emotional ties formed within the family in early childhood, and their influence throughout life, suggests that the formation of incest barriers within the family itself must have been necessary to change the early human group from a natural event into a social institution.[3]

I may quote a few instances from my own experience which drew my attention to the importance, in each of the cultures where they occurred, of the opposite principle to that which was the dominant legal one:—

> When among the matrilineal Nubas of South Kordofan, Sudan, in 1909, I was struck by the affectionate attitude of the proud parent assumed by a middle-aged man who showed us round the village of Lafofa. Marriage is not a very permanent association there, and is frequently broken after a few years and new unions contracted, the children in such cases going to live with their mothers and the new husbands of the latter. The fact that such children were living under the roofs of other men who were now husbands to my informant's past wives seemed not to impair at all his affectionate regard for his own offspring.

[1] "Studies in Semitic Kinship," *Bulletin of the School of Oriental Studies, London Institution*, vol. iii, parts i and ii, 1923 and 1924. "Marital Gerontocracy," *Journ. Roy. Anthrop. Inst.*, vol. liv, July–December, 1924.

[2] R. H. Lowie, *Primitive Society* (New York, 1920). B. Malinowski, *The Family Among the Australian Aborigines* (1913); *Crime and Custom in Savage Society* (1926); *Sex and Repression in Savage Society* (1927). A. R. Radcliffe-Brown, "The Mother's Brother in S. Africa" (*S. African Journal of Science*, 1924).

[3] Brenda Z. Seligman, Critical Notice, *British Journal of Psychology* (*General Section*), vol. xvii, part 4, April, 1927, p. 376.

The Kabbabish, a wealthy camel-owning Arab tribe of northern Kordofan, are patrilineal, and indeed patriarchal: they observe Muhammadan law, which is based on patriliny. A youth who has reached puberty usually spends the greater part of his time looking after the herds of his paternal uncle, who, with the father, is always held in respect. But I was told that the male relative whom a child would frequently love most was the maternal uncle, the reason being that a woman's brother was free to enter her tent unceremoniously whenever in the neighbourhood, and was likely to make much of his sister's children: his "heart was soft" towards them, and it may be hazarded that he would be able to enjoy indulging their whims without feeling responsible for their possible lapses in behaviour.

Among the Bari, a patrilineal people of the southern Sudan, the maternal uncle is a person of considerable social importance. A man addresses his maternal uncle and his maternal uncle's son by the same term. This anomaly appeared to have no reference to the marriage customs of the people, but so far as I was able to discover it was to be related to the social position of the maternal uncle. The male cross-cousins do not stand on an equal social footing, but, as inheritance is patrilineal, so a man inherits from his father the position of social prestige that the latter held towards his sister's children.

These are but a few examples of the type of observations I was able to make in our survey work in the Sudan. Professor Malinowski's detailed intensive work among the matrilineal inhabitants of the Trobriand Islands clearly demonstrates both the sentimental and the legal attachments to both sides of the family, and the conclusions that he has drawn with regard to the family and the clan will necessarily be considered in all future social anthropology.

The family rather than the clan, as the basic social unit, has always had its supporters, notably Professor Westermarck and Mr. N. W. Thomas, but these writers upheld their position by belittling the clan and the classificatory system of relationship, which, even if not always fully understood, undoubtedly have great social importance.

After comparing the advantages of mother-right and father-right, Professor Malinowski sums up:

> "The advantage of the unilateral as against the bilateral principle of kinship counting in legal, economic, and social matters, however, is beyond any doubt and cavil."[1]

The hypothesis that I propose to put forward here is, that those social groups usually known as "marriage classes" have come about by the decidedly inconvenient method of tracing descent on the bilateral principle.

[1] Bronislaw Malinowski, *Sex and Repression in Savage Society* (1927), p. 272.

This hypothesis is the outcome of the study of the six-class system in Ambrym Island, so ably described by the late Mr. Deacon.[1] In the Ambrym system there appears to be considerable evidence for a change from a previous dual organization, with matrilineal descent and cross-cousin marriage, to the system actually in force at present. I have been unable to see how this could have come about except as the result of outside influence: I have therefore formulated a hypothetical reconstruction. This reconstruction is not necessary to my thesis: all that is necessary is the acceptance by the Ambrym islanders of kinship reckoned on a bilateral system as a bar to marriage, thus enlarging the conception of incest. Any circumstances which may have brought this about would be acceptable; as far as I understand the problem, a stimulus due to foreign influence seems the most likely solution, the cultural evidence for a mixture of races being strong in this area. Matrilineal and patrilineal principles can be found in action in any culture, and Professor Malinowski has brought forward cogent reasons to account for these facts, so that there is no need to suppose foreign influence to account for close ties arising between father and son in a society which is dominantly matrilineal. However, I do not see how these sentiments, which might foster changes in inheritance and succession, would tend to enlarge the conception of incest in any society where a rigid incest law was already functioning.

If my theory, that the six social groups in Ambrym have been formed because of the recognition of bilateral descent, be valid, then the Australian four- and eight-class systems can be understood in the same way. In Australia, however, I know of no evidence for a change from unilateral to bilateral descent (this may have taken place, and evidence may yet be found for it), and it may be possible to derive the formation of the social groups called marriage classes directly from the bilateral family, or indirectly by means of a matrilineal clan organization.

PRELIMINARY CONSIDERATIONS.

Having arrived at a hypothesis which is at variance with much of the theory now current concerning the marriage class-systems, I wish to show in detail how it arose from the perusal of the late Mr. Deacon's Ambrym manuscript.

Dr. Haddon sent me Mr. Deacon's work on "The Regulation of Marriage in Ambrym" to read before sending it to press. I was anxious that so important a piece of work should not be marred by slips, and was determined to understand every detail myself. The first difficulty encountered was the statement on p. 328 that a man married his father's sister's daughter's daughter, and that own (not classificatory) brother and sister could marry own sister and brother; in other words, marriage by exchange of a sister for a wife took place as well as that with a definite relative. As the two statements appear incompatible unless certain other marriages

[1] A. B. Deacon, "The Regulation of Marriage in Ambrym," *Journ. Roy. Anthrop. Inst.*, vol. lvii, p. 325.

were also allowed. I started to make genealogical diagrams. It soon became clear that if the father's sister's daughter's daughter and mother's brother's daughter's daughter marriage were allowed, and also the exchange of brother and sister, then that with the mother's father's sister's daughter and mother's mother's brother's daughter must be allowed too, but these marriages were not mentioned in Mr. Deacon's text. (Fig. 1.) It was then necessary to make tables to ascertain if these marriages fitted with the six-class system: finding that they did, I began to regard the typical marriage as with "the daughter of the female cross-cousin," and to realize the importance of the fact that the marriages always went either "up" or "down" one generation. It then became clear that this fitted perfectly with the use of the relationship terms. I had previously taken Mr. Deacon's diagram on p. 332 and worked it out in genealogical form, and came to the somewhat surprising conclusions stated in the legend to Fig. 2, that is to say, that the marriages shown on the plan could not take

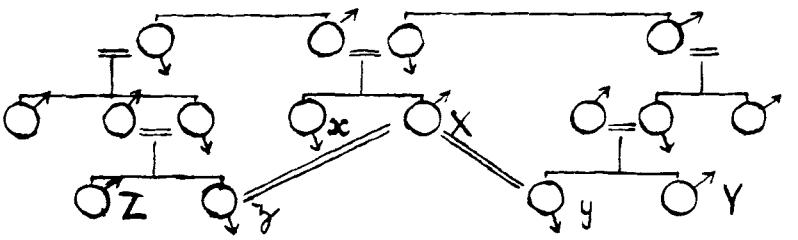


FIG. 1.

This figure illustrates the marriage of a man with his mother's brother's daughter's daughter and his father's sister's daughter's daughter, also of a brother and a sister with a sister and a brother. If X marries his mother's brother's daughter's daughter, y, then Y marries his mother's father's sister's daughter, x. If X marries his father's sister's daughter's daughter, z, then Z marries his mother's mother's brother's daughter, x. All these marriages may be summed up as with the child of the female cross-cousin, and conversely with the cross-cousin of the mother. In every case the spouses must belong to different generations. Either the husband or the wife may belong to the elder generation, but they cannot belong to the same generation.

place in reality. These results do not in any way invalidate Mr. Deacon's diagram, which is of the utmost importance: they merely demonstrate that the native who was able to think clearly of relationship groupings found no need to differentiate between real and classificatory relationship when demonstrating the possible marriages, and the plan refers to classificatory, not real, relationships. In order to keep closely to Mr. Deacon's text, all my diagrams have been made with reference to this plan, assuming the original E to be A1. Working from these diagrams points of great theoretical interest inevitably arose, and it was while trying to understand why, out of the six groups, only one was marriageable—or, to put the problem in another way, whether any other marriage beside that with the daughter of the female cross-cousin could be permitted on the system—that the hypothesis of the origin of the six-class system from the dual organization by means of the recognition of bilateral descent forced itself upon me. Other points of theoretical interest also arose, and will be referred to later.

DIFFERENCES BETWEEN THE BALAP AND RANON SYSTEMS.[1]

In both districts in which Mr. Deacon worked in Ambrym Island he found the same typical marriage, and in both society is divided into six groups.

At Balap there was no obvious division of society into two moieties, but "the population is divided into three 'tribes' called '*burelem*' . . . Descent in the *burelem* is patrilineal: a man, his father, his father's father, son, son's son, and the children of all these, belong to his own *burelem* . . . Each *burelem*, however, is divided into two sides or 'lines,' such that a man, his father's father, his son's son (and sisters of all these) belong to his 'line,' while his father, his son, and his son's son's son belong to his father's 'line,' all in the same *burelem*."[2] There is no mention of matrilineal descent, but *a man does not belong to the group of his father*, and it is the two lines of the three respective *burelem* that form the six groups.

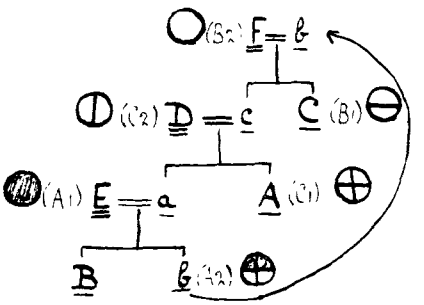


FIG. 2.—BALAP.

The original men E, D, F all marry into generations one below each other: these marriages follow Deacon's Diagram V counter-clockwise. The original members of the groups and their sisters are underlined thus: E, e; the next generation thus: A, a.

E marries a the daughter of D.
D .. c F.
F .. b E.
∴ F .. the daughter of D's daughter.

But D had married F's daughter, so that, according to the diagram, a man marries his daughter's daughter's daughter: this, of course, is not possible, so the relation must only be regarded as classificatory. Even supposing that E, D, F already have daughters or classificatory daughters, b, a, c, who marry respectively F, E, D, the sisters (e, d, f) of the original men must marry A, C, B, the sons of D, F, E, as will be seen in Fig. 3, A. Thus, when a true brother and sister marry another couple of a true sister and brother, one man must marry "up" while the other marries "down": the spouses must be separated by three generations, in order that they may be in the correct "line" of the *burelem*. If, on the other hand, they were classificatory brothers and sisters, they would be separated by one generation only, and there need be no disparity (or no great disparity) in age.

[1] Actually, as my object was only to understand the Ambrym system, I made all my diagrams for Balap first, and on those worked out my hypothesis, and only compared them with Ranon afterwards.

[2] *Op. cit.* p. 329.

At Ranon "the community is divided into three *bwalim* or *fwatun*, similar to the *bwelem* of Balap, in which descent is patrilineal. Each of these is subdivided into two *wor* or *verachei*, which resemble the two 'lines' of Balap," but "the community is further divided into two *batatun* with matrilineal descent, and each *batatun* is composed of one *wor* from each of the three *bwalim*."[1] (Fig. 9.)

Unnamed Classes.

The first problem that arises on reading Mr. Deacon's paper is that of the unnamed classes,[2] for though the class-system is definite in Ambrym, the classes are unnamed—they are simply referred to as "my own" *bwelem*, "my mother's," and "my mother's mother's," and "my own" or "my father's" "line" in each *bwelem*. How can a system apparently so difficult to follow function practically? A man may only marry into one other of the six groups, his mother's mother's *bwelem*, but not her "line." To an outsider this seems an incredibly difficult rule to follow, whereas it would appear simple enough if the groups were named. It will be seen when the following diagrams have been examined that there is no difficulty in this for the native, because the classes are really founded on genealogical relationship associated with one kind of marriage regulated by real or classificatory relationship. With this particular type of marriage the six groups come into existence automatically: the theoretical importance of this, and the fact that marriage classes can be perfectly definite and yet have no need to be named, should be borne in mind, but cannot be discussed here.

Marriages Allowed.

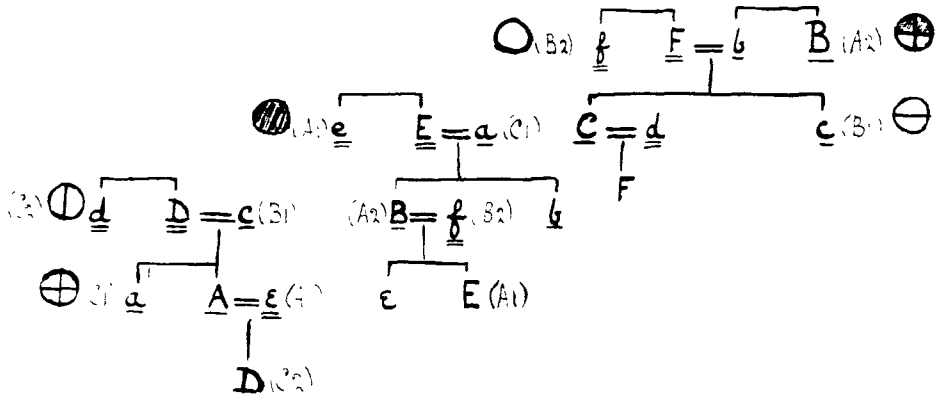
The marriages allowed in this area are with the father's sister's daughter's daughter and the mother's brother's daughter's daughter, but, as a brother and a sister usually marry a sister and a brother,[3] it is clear that a man must also marry his mother's mother's brother's daughter and his mother's father's sister's daughter. In other words, a man and a woman may *both* marry the children of their female cross-cousins (including both types of female cross-cousin).[4] It is also clear that when this marriage (*i.e.* with the son or daughter of the female cross-cousin) occurs, a division of relatives by blood and marriage into six groups follows, provided that descent from the father as well as the mother is recognized and exogamy is the

[1] *See* p. 333.

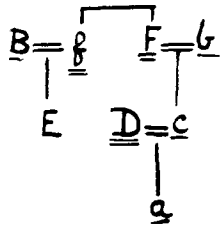
[2] Here I have followed Mr. Deacon in calling the six social groups in Ambrym "classes." I should prefer to call them exogamous groups or groupings. (*See* footnote, p. 375.)

[3] I have avoided calling this "marriage by exchange" (although it would be quite reasonable to regard this type of marriage in this light), because I do not know from Mr. Deacon's notes whether, when this type of marriage takes place, there is any difference in either bride-price or services rendered.

[4] When I had finished working out the system, I discovered that three other kinds of marriage are permissible, or, rather, the same marriage under three other guises; but it would confuse the issue to discuss these at this stage in the argument, and I shall refer to them later.



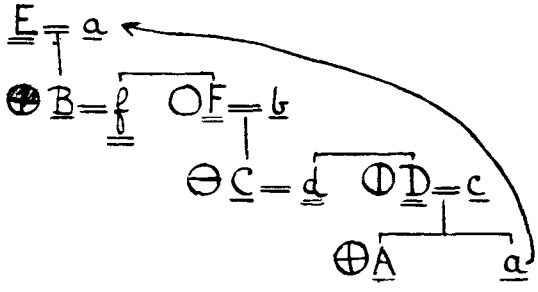
A.



B

A marries e, the father's sister of B.
C .. d A.
B .. f C.
∴ B .. f, mother's father's sister of A.

A, B, C, "the men left over," marry the sisters of the original D, E, F. Hence they marry into one generation above each other and have children in D, E, F again. These are the clockwise marriages.



C.

A is mother's brother to B, so that B marries his mother's brother's mother's father's sister; if the relationship were real instead of classificatory, B would marry his mother's mother's father's sister.

FIG. 3.—BALAP.

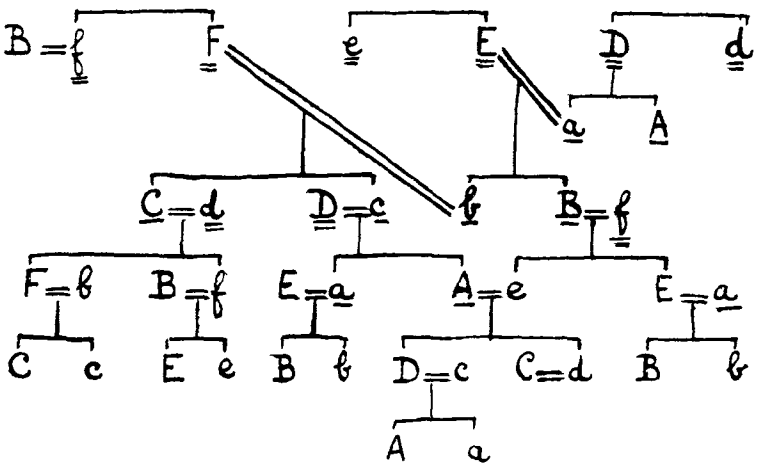


FIG. 4.—BALAP.

If the genealogical relationship of the descendants of D, E, F be traced to Ee and Aa, it will be seen that when E marries a, she is not only the daughter of his mother's brother's daughter, but also of his father's sister's daughter, and that as a brother and a sister marry a sister and a brother, A marries e, who is not only his mother's mother's brother's daughter, but also his mother's father's sister's daughter. It must be borne in mind that in this diagram, if a true brother and sister marry a true sister and a brother, the other relationship of a son or daughter of the female cross-cousin, or, inversely cross-cousin of the mother, can only be classificatory (*see* Figs. 2 and 3, B).

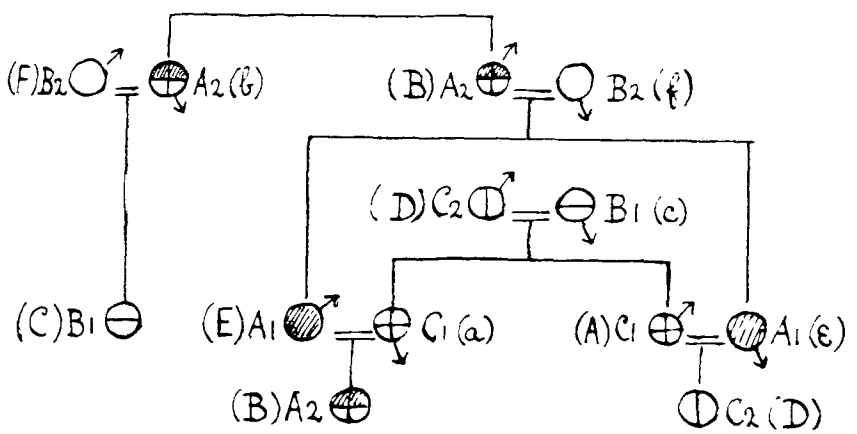


FIG. 5.

A1 ⊖ cannot marry A2 ⊕, the group of his father.
A1 B2 ○ mother.

As a brother and a sister marry a sister and a brother, and neither men nor women can marry into the groups of either parent, the rules that apply to C1 (male), the wife's brother of A1 also apply to A1. So:—

A1 cannot marry into C2 ⊖, the group of his wife's father.
A1 B1 ⊜, ... mother.

Neither A1 nor C1 can marry into their own groups.

rule. Figs. 2, 3 (A, B, and C), and 4 all work out the marriages of the men D, E, F (from Deacon's Diagram V) and their sisters, sons, and daughters, and show how they fall into the groups that he has numbered A1, A2, B1, B2, C1, and C2. I have added a symbol for each group. It must be remembered that these groups are only numbered for convenience: to the natives they are referred to as "my own," my "mother's," and "my mother's mother's" *bwelem*, and "my own" or "my father's" "line" in each.

Marriages Forbidden.

Fig. 5 shows why A1 can only marry into one group. Let A1 male marry C1 female. If it be granted that both matrilineal and patrilineal descent are recognized[1] and exogamy practised, it will be seen why A1 cannot marry A2 or B2, the groups of his father and mother (similarly his wife C1 cannot marry into the groups of her parents, C2 and B1), and, as a brother and a sister marry a sister and a brother, A1 female—and consequently C1 male—cannot marry C2 or B1, and so neither can A1 male. Nor can he marry into his own group. Thus for each group four groups are mutually excluded, as well as that of the self. The only women who are marriageable are C1, neither of whose parents belong to the groups of A1 and his parents. Reference will be made later to the one member of that group (C1) whom A1 cannot marry—who is not addressed by that relationship term which is the class-name for wife.

THE SIX-CLASS SYSTEM.

Deacon's Hypothesis of the Development of the Ambrym System.

So far as I understand Mr. Deacon's thesis, he suggests that there was an original dual organization composed of six intermarrying groups with matrilineal descent influenced by a patrilineal immigration, and from this the six-class system of Ambrym developed.[2]

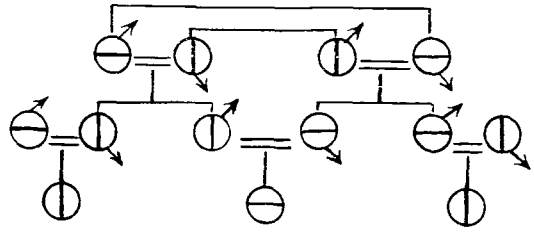
An Alternative Hypothesis.

It seems possible that there is another way of looking at the problem, *i.e.* that this complicated six-class system, with apparent patrilineal descent and marriage with the daughter of the (f) cross-cousin, may have arisen quite simply from a dual organization with matrilineal descent and the marriage of cross-cousins of the type shown in Fig. 6, A. Here the custom of a brother and a sister marrying a sister and a brother is assumed. Some circumstances must be supposed to have arisen which would have prevented a man from marrying into his father's group as well as into his mother's group. I put forward the suggestion that this cause may have been

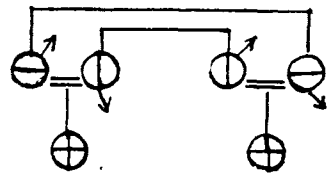
[1] In Ambrym, descent is indirect (that is to say, a man belongs neither to the group of father or of mother), but a man belongs to the *bwelem* of his father. As will be seen from the argument later, I suppose this form of descent to be direct bilateral descent.

[2] *See* p. 334.

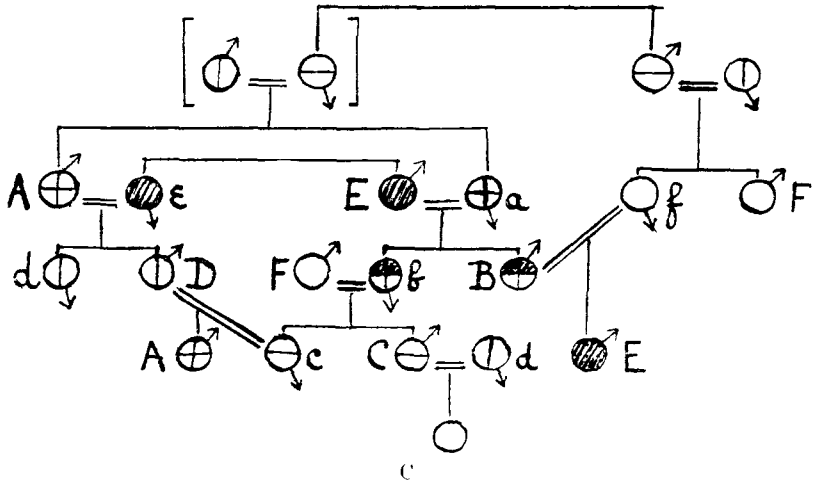
racial mixture with an immigrant people, presumably of a higher culture. We may turn again to Deacon's Diagram V. and in Fig. 6, C, we may picture E as a stranger entering a society with dual organization and matrilineal descent: E recognizes patrilineal descent and marries "a," the daughter of the dual organization, who recognizes matrilineal descent: her brother, A, marries E's sister, "e." The children of Ea recognize blood-ties to the groups of both parents. They cannot marry members



A.



B.



C

FIG. 6.

of E's group, either because the patrilineal exogamous feeling of the immigrants is strong, or, if they should have been patrilineal but have disregarded exogamy, there may not be sufficient persons available in their group. Neither would they marry members of their mother's group, because of the matrilineal sentiment of the A's of which they are half-breeds. But the question arises, to which side of dual organization does the mother really belong, to her father's or her mother's? To her children,

who recognize both forms of descent, she belongs to both, and the maternal cross-cousins, D and d, are of the same blood as their own mother. further, anyone whom "a" calls "mother" or "father," "brother" or "sister," or "child" is forbidden as a mate to her children. As has been pointed out above, their father, E, may have no cross-cousins: there remain only the mother's cross-cousins. Thus the children of Ea form a new group, Bb, who marry their mother's cross-cousins, Ff, the members of one group of the original dual organization. The males of the group B would feel that their children belong to their own father's group: the attachment of the alien men to their sons would probably be great, and they might have sufficient prestige to take advantage of this, so that the children of Bf would again belong to group E. It would probably matter little into which group of the dual organization the B group had married, and in the diagrams I have shown them as members of the opposite group to which "a" really belonged if she had recognized only matrilineal descent, but I have left their symbol unmarked, as to their half-bred mates it would not be clear to which of the two groups they belonged. The females, "b," of the same group of mixed blood marry their mother's mother's brother's sons (the brothers of their own brothers' wives): their children, with the foreign blood introduced by their mother's father, would not take their father's group nor their mother's mixed group, but their own father might easily consider them as belonging to the opposite side of the dual organization to himself, as they would have done had he made the usual marriage with the cross-cousin instead of with her daughter. So the children of Fb belong to the group in the dual organization of F, their father's father, and may be called C. A, the brother of "a," marries "e," the sister of the stranger, E, and their children form a group, Dd. D also recognizes both forms of descent, and, therefore, avoiding the groups of both parents, marries "c," the daughter of his female cross-cousin. It has been convenient to give this group the symbol of D's father's father, the opposite side of the dual organization to C. The children of De again form a new group, recognizing both forms of descent: the father was a cross-bred with the stranger group, the mother a member of the C group of the dual organization. Supposing that the patrilineal idea is firmly enough implanted to prevent the children from being regarded as pure C group, so does the matrilineal idea prevent them from being pure D group. Their father's father, A, however, was looked upon as a member of both the dual organization groups, and by public opinion, which would have been accommodating itself to bilateral descent, the children of De would be A, to whom I have given the symbol ⊕, showing that it is formed by the recognition of the blood of the groups ⊖ and ⊤.[1] The children of Cd in the same way

[1] The two sides of the dual organization have had to be lettered D, C, because I started from Mr. Deacon's plan and supposed E to be the immigrant. Had I started with the dual organization and lettered them in moieties, A, B, C—D, E, F, letting A and D be the two original groups, it might have been more convenient to the reader, but the result would have been the same. I have, however, made a point of starting all diagrams and hypothetical reconstruction from Mr. Deacon's plan, so as not to stray from the actual condition recognized in Ambrym.

go back to the group of their father's father and become F. Thus six groups are formed, two of which represent the two groups of the original dual organization, though, by the introduction of a male and a female foreigner in the second generation, none of the members of the third and fourth generation are without some foreign blood. It would, however, be quite possible for the dual organization with unilateral matrilineal descent to exist for some time alongside of six groups formed in this way, before total absorption into the system, the more conservative members refusing to marry half-breeds or to recognize patrilineal, and hence bilateral, descent.

The above argument has been developed entirely on the diagrams, and information concerning the Balap district of Ambrym: it will be necessary to review it later with reference to the Ranon district.

Analysis of the Kinship Terms.

It remains to see how far the relationship terms support this hypothesis. The terms to be considered are those which, according to Mr. Deacon's informant, are "not straight," *i.e.* do not conform to the six-class system—*cara*, *nink* and *membyag*. Before examining these in detail, attention must be called to the statement in a footnote by Miss Wedgwood, that these terms "appear to be used for people by virtue of their kinship to the speaker rather than their membership of a certain *bwelem* or 'line.'" Though this is correct, in that these terms cut across class-membership, it is somewhat misleading. These terms are used in the classificatory sense, therefore they would be used to persons whose individual kinship to the speaker might not be traceable. These terms are classificatory though not "class" terms, whereas all the other terms denote class membership, but they may equally well be considered as classificatory relationship terms. The importance of this fact to the general theory of the classificatory system should be borne in mind, but cannot be discussed here. The problem before us is, what classificatory forces have caused this partial breakdown of the class system? *Here we come to a paradox, for it appears to be the typical marriage with the daughter of the female cross-cousin, itself indispensable to the six-class system of Ambrym, that prevents society being divided completely and logically into six classes.*

Inheritance of Widows.

The only woman of the correct intermarrying class (C1 for A1) who does not receive the same relationship term as the wife is the father's mother: she is called "*cara*." If we turn to Fig. 3, A, we see that there is nothing to prevent E from marrying his father's mother "g" from the point of view of class or relationship. Nor is there anything absurd in the idea, for she might become a widow, and marriage with the father's father's widow is not an unknown custom in other parts of the world: further, "c," the mother of "g" and E are cross-cousins (Fig. 3, B), so that "g" is a correct wife for E. However, she married "up," and became the

wife of E, while E's sister "g" married "down," and became the wife of A. Thus "a," who is a correct wife for E according to the Ambrym system, is taken out of the marriageable class and put into the class in which the mother-in-law falls. The obvious meaning of this is, that E must not marry "a," in other words, marriage with the widow of the father's father is not allowed. The profound sociological and psychological effect of this view will be seen if the position of grandchildren and grandparents is considered. Unfortunately Mr. Deacon's note does not show what becomes of the widows.[1]

For a woman of A1, the only man of the correct marrying class C1 who is not addressed by the term for husband is the son's son: he is addressed as "*membyng*," a term whose meaning must be discussed later: "a" calls E "*membyng*," so that in this case *membyng* becomes the reciprocal for *vacu*.

Terms which are not "Straight."

Having noted these two persons who should have been marriageable on the class-system and are placed in non-marriageable categories, we may now consider the terms which are not "straight" in detail.

"*Varu*" is used by men and women for the father's sister's son and daughter and the mother's brother's son and daughter. As will be seen in Fig. 4, the father's sister's daughter and the mother's brother's daughter are the same person, owing to the marriage of a brother and sister with a sister and brother: and for a man she is also the *mother of the wife*, and this seems to be the key-meaning of the term. For A, a member of C1, the mother-in-law is B2. The father's sister's son and the mother's brother's son are also the same person and belong to the same class: however, A cannot marry a daughter of either his mother's brother's son or his father's sister's son, who are both also called "*vacu*," apparently because this term is used by both

[1] I am indebted to Miss C. Wedgwood for the following references concerning the treatment of widows in the New Hebrides:—

"The levirate obtains as a matter of course . . . It is a matter of arrangement for convenience and economy whether a brother, cousin, or uncle of the deceased shall take his widow. The brother naturally comes first; if a more distant relation takes the woman, he probably has to give a pig. In Leper's Island, if a man who is a somewhat distant cousin of the deceased wishes to take the widow, he adds a pig to the death-feast . . . to signify and support his pretensions, and he probably gives another pig to the widow's sisters to obtain their good will . . . It is a rare thing that a woman should remain a widow long." (R. H. Codrington, *The Melanesians, Studies in their Anthropology and Folk-Lore*, Oxford, 1891, p. 244.)

Tanna.—"A woman is at the disposal of her husband's brother." (C. B. Humphreys, *The Southern New Hebrides, an Ethnological Record*, 1926, p. 47.)

"A case is recalled . . . when the widow of a man was strangled at the burial of her husband . . . a frequent feature of Melanesian funerals in the old days." (*Ib.*, p. 90.)

Aoniteam.—"Widows were sometimes strangled at their own request . . . for it was considered a disgrace to live in widowhood. There was a feeling that a wife should be near her husband in their future home." (*Ib.*, p. 108.)

"Widows were strangled after the death of a chief." (*Ib.*, p. 111.)

sexes for both sexes.[1] A can marry the daughter of "f," but not those of F. In the same way a woman can only marry the son of the daughter of either her mother's brother or her father's sister. A's mother's father, F, belongs to the same class as the wife's mother, "f." Thus all these people who are called "*cacu*" belong to one class: as far as they are concerned, *cacu* is a class-term, but it would be very unlikely that they would be addressed by one term in any classificatory system. The mother's mother, however, is addressed by this term: the mother's mother of A is b, and belongs to a different class—on a purely class basis she should be a "*metou*," that is to say, she should have been included in the class to which the wife's father belongs. "b." A's mother's mother, though she cannot be the mother of A's wife, and belongs to the same class as A's wife's father and in the diagram is A's wife's father's sister, is called "*cacu*." It has already been noted that the father's mother is called "*cacu*," and a reason suggested which fits well with other classificatory systems: and it was noted that the reciprocal of "*cacu*," meaning father's mother, is "*membyuq*." The reciprocals of mother's mother (also "*cacu*") and the daughter's son and daughter are called "*membyuq*," and it is suggested that the mother's mother falls into the *cacu* category, because it is the reciprocal to *membyuq*. This kind of grouping together of relatives corresponds with the classificatory system of relationship, but is inconsistent with the class-system.

That a woman calls her husband's mother and her daughter's husband both "*cacu*" is correct, both according to the class-system and the classificatory system of nomenclature. She calls her father's father "*cacu*": he belongs to the same class as herself, and according to the class-system should be "*mamakali*," brother (w.s.): the reciprocal to father's father (w.s.) is son's daughter (*membyuq*), and as the reciprocal to *membyuq* in other cases is *cacu*, so father's father (w.s.) becomes *cacu* according to classificatory nomenclature.

Nink is father's sister, mother's brother's wife, wife's mother, and father's sister's daughter: the first three persons would be grouped together by the classificatory system wherever cross-cousin marriage is allowed, and one term for these is typical of the dual organization. It is not inconsistent with a class-system. If marriage were allowed with the daughter of the cross-cousin as well as with the cousin, it would be quite in keeping with the classificatory system to include the father's sister's daughter as well under this term. It should be noted that *cacu* and *nink* are alternative forms for wife's mother and father's sister's daughter. For a woman as well as for a man the father's sister's daughter is *nink* as well as *cacu*. Besides this relative, two reciprocal pairs are *nink*, the father's sister and brother's daughter, the mother's brother's wife and husband's sister's daughter, but the husband's mother has not been included as is the wife's mother for a man. It is clear, however, that, in a dual organization with cross-cousin marriage (Fig. 6, A), she might be included: in any case, the two reciprocal pairs would be consistent with both the

[1] "*Vacu*" does not mean father-in-law for a man: wife's father is "*metou*."

six-class system and the classificatory system. The only anomalous use of this term by a woman is for the father's sister's daughter: the father's sister's daughter is the husband's mother, and it is suggested that *niak* at one time had this meaning, and that on that account the female cross-cousin is called by this term.

Membyug is used by men and women for their grandchildren of both sexes. The grouping of grandchildren together is common in the classificatory system, but is entirely out of keeping with the six-class system. A man's son's children belong to his own class, and so should be classed as brother's and sister's *kômmasian*: his daughter's children belong to that of the mother's father's class. A woman's son's children belong to her marriageable class, and so should be termed spouses and husband's sisters: her daughter's children belong to the class of her own mother (Fig. 4). It is perfectly clear that the use of the term "*membyug*" cannot have arisen in the six-class system.

The reciprocals of *membyug* are *vavu*, with the exception of son's sons, whose reciprocal father's father is *kômmasian* (brother), the correct term according to the six-class system. It must be noted that while all grandchildren receive one term, irrespective of the class-relationship that they stand in to their grandparents, the one grandparent to whom class solidarity feeling would be natural receives the correct term, while all the others are classed with the mother of the spouse, a simple method of indicating that those of the opposite sex cannot be taken as mates. We shall return to this point later.

Terms which are "Straight," but whose Use is limited.

Before summing up the evidence of terms which are "not straight," those which are "straight" should be considered further.

The class, and not the classificatory, principle is well demonstrated in the use of the terms for brother and sister, and of *tata* (father), *nana* (mother), and *netuk* (child), especially by the inclusion of husband's father and father's father's father under the term which denotes "child." However, the class-term "*nana*" is not used consistently for all members of the class, for the daughter's daughter (w.s.), who belongs

D = c
|
e = A
D = c

to the same class as the mother is *not* addressed by this term. The term "*vugak*" is given for one person only—it is used by a woman for her son's wife: on the class-system, this term ought to include the husband's mother, the mother's brother's daughter, and the father's sister's daughter, all of whom are called "*vavu*." It is difficult to see why the son's wife should have been separated from this class, unless

it is connected with the prohibition against marrying the widow of the father's father that has been suggested above. If "e" calls "c," the wife of her husband's father, by the same term as she calls "c," the wife of her son, it might suggest that D might marry his father's father's wife (*see also* Fig. 7). Although this suggestion appears somewhat far-fetched at first sight, it becomes not unreasonable when the position of grandchildren to grandparents is fully considered. They are called by a simple non-reciprocal term which, since it disregards classes, can only mean "child of the child": yet a man and his father's father belong to one class, so that the father's father is a brother. Nor is this a mere courtesy-title, but would appear to have sociological importance. Here two antagonistic principles are in action.

The Choice of Spouses, and Further Consideration of Widows.

We may again turn to the typical marriage to see whether any light can be thrown on the curious compromise between the class and the classificatory system, seen

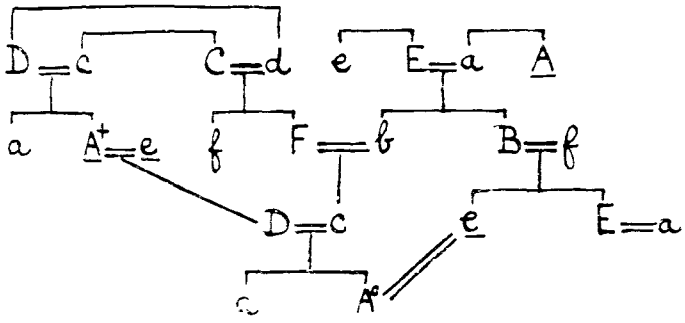


FIG. 7.—BALAP.

The potential husbands of e (A^+ and A^2) stand to one another in the relationship (real or classificatory) of father's father and son's son.

above. A woman has a choice of five[1] relatives to marry, but if the marriage of the brother and sister with sister and brother is practised these come down to two only: she must marry her mother's cross-cousin or the son of her own female cross-cousin. As will be seen in Fig. 7, the two former stand in the relationship of either real or classificatory father's father or son's son to each other.[2]

[1] These are her father's sister's daughter's son, her mother's brother's daughter's son, her mother's mother's brother's son, her mother's father's sister's son, and her father's mother's brother. A sixth is submerged beneath these, and will be discussed later. (See p. 366.)

[2] In spite of a certain amount of repetition, I have thought it worth while to reproduce this just as I worked it out for myself, as I did not myself understand the problem both of the relationship of the alternative spouses one to the other and that of the inheritance of widows until I had been through the material from two points of view.

Whether we look upon A as the father's sister's daughter's son to e (Fig. 7), or as mother's brother's daughter's son, does not matter; in either case, her correct mates are the A's whom I have marked $\underline{A}^{-}$ and A°. If she marries $\underline{A}^{-}$, it is of course obvious that she could not afterwards marry his real son's son A°, because of the great disparity in ages, quite apart from the relationship; but there are the classificatory A°'s to be considered, as well as the possibility of D already having grown sons if she should be a younger wife to $\underline{A}^{-}$. Her relationship to A°, as the wife of $\underline{A}^{-}$ and, consequently, also the widow, is definitely decided by the fact that for A° she is no longer called by a term which denotes a potential wife but by one that denotes a potential mother-in-law (*rara*). Thus the possibility of marriage into two generations not one's own (one "up" and one "down") cuts across and breaks down the class-relationship between grandchildren and grandparents (and separates the son's wife (w.s.) from the husband's mother). But, as will be seen, it does not obliterate the class-relationship, for A° still calls $\underline{A}^{+}$ by the same term as "brother," because they belong to the same class, although the term is not reciprocal, as one would expect it to be in a thoroughgoing class-system. One might expect class-brothers to inherit each other's wives, as such a right does not transgress class-marriage rule and is not in disharmony with either matrilineal or patrilineal ideas of descent. Unfortunately there is no account in Mr. Deacon's paper of what becomes of widows, except that they cannot be married by the sister's son (and this, of course, would not be possible on class grounds in Ambrym, because the mother's brother's wife always belongs to the class of the father).[1] The terms show that they cannot be married by the son's son, but re-marriage with the husband's brother is not prohibited by the terms: that is to say, the same term is used for husband and husband's brother. Thus we may conclude that the typical marriage and the prohibition for certain (if not all) men to marry the widows of their "brothers" in the class-sense, reasons powerful in shaping the variations of the classificatory system, are also those which have caused the anomalies in the Ambrym class-system. However, all the marriages between persons separated by two generations are *not* forbidden, for a woman calls her father's mother's brother "husband," and presumably may marry him. Though at first sight this appears to be contrary to all the Ambrym rules, by which persons marry into a generation above or below them, it is not really so. If we look at the same Fig. 7, we see that "e" can marry $\underline{A}^{+}$, who is her mother's cross-cousin, but can also be the brother of her father's mother. There is also another way in which the relationship of "e" to A°, the son of her female cross-cousin, may be regarded in which the generations are again altered. He can also be her father's father's sister's son's son, and so of her own generation. We again reach a paradox, because of *the typical marriage by which, although a woman must marry into a generation one above or one below her own, she can appear to marry a man two generations above*

[1] *See* p. 365, *n.* 1.

or below her, or one of her own generation.[1] In other words, the typical marriage by which a man's possible spouses fall into one class, separated from him by one generation and from one another by two generations, makes it possible for persons of the right class to marry, whatever the generation: but this is more apparent than real, because there is always more than one way in which the relationship (real or classificatory) between the spouses can be traced. One kind of marriage, however, is always impossible: should the spouses appear to be of the same generation they cannot be related to one another (either in a real or classificatory way) through their respective parents: the relationship must be traced through their grandparents. That is to say, in our own nomenclature, the marriage of any kind of first cousin is impossible, while the marriage of first cousins once removed or of second cousins may be possible, as well as between persons who stand in the relationship of brother's son's son and grandparent. The key to the system is that there is an alternation of generation, the father's father is classed with the brother by a man but not by a woman, so that there is not equality of generation between the sexes, the sister is classed by a man with his mother's mother's mother.

Recapitulation of Evidence from the Analysis of Terms.

It will now be convenient to recapitulate the chief points that have emerged from the examination of the relationship terms. A class, and not a classificatory system of nomenclature, is used consistently up to a certain point. This class-system breaks down only when it is more important to regard an individual from a relationship than a class point of view. Because the father's mother is a possible mate from the class view-point, and marriage with her is forbidden by the Ambrym social code, the terms for grandparents and grandchildren as well as those for the parents of the spouses become involved. The use of the term "*membyag*" for grandchildren suggests that this term did not arise with the formation of the six-

[1] Since writing the above, some more of Mr. Deacon's MSS. have arrived, including an analysis of the marriages between relatives recorded in the genealogies taken at Balap. The following cases occurred:—

Marriage of a woman with her	father's sister's daughter's son,	5.
,,	,, mother's mother's brother's son,	2.
,,	,, mother's father's sister's son,	2.
,,	,, father's father's sister's son's son,	2.
,,	,, father's mother's brother's son's son,	1.

It will be noticed that the first three of these marriages are three out of the five possible spouses that I pointed out on p. 365. The two last are particularly interesting. I have noted above that submerged beneath the typical marriage with a person of a generation above or below the partner was a sixth type with the father's father's sister's son's son, *a person of one's own generation*: two of this type of marriage are here recorded. There is also a seventh type, with the father's mother's brother's son's son, of which one example is recorded. It must be noted that these two marriages are the only possible marriages with members of the contemporary generation. Cf. for A1.

class, but has been taken over from the dual organization. The use of "*cawa*" and "*ngak*" both for wife's mother and mother's sister's daughter suggests that these two terms originally came from different systems of nomenclature. Because "*ngak*" means wife's mother, father's sister, and mother's brother's wife, it would appear that this term belonged to the dual organization where marriage with the cross-cousin was permitted: further, it seems that *cawa* belonged to the system of the incoming strangers, and that after the mixture of the two cultures marriage with the cross-cousin was forbidden. The clash between the two systems is also illustrated in the use of the terms "*nana*" and "*engak*," both of which are limited, and do not include all the other members of their classes who logically should belong to them.[1]

This evidence strongly supports the hypothesis that I have put forward to account for the formation of the six-class system as it was found at Balap, namely, the adoption and legalization of bilateral descent, and that the change from a dual organization with matrilineal descent and cross-cousin marriage was brought about by the incoming of strangers who recognized patrilineal descent. When sufficient intermarriage had taken place a population would have grown up who recognized both patrilineal and matrilineal descent, and the exogamous feeling of the dual-organization people would have been strong enough in them to forbid marriage with persons who bore both the blood of the father and of the mother directly: hence cross-cousin marriage could no longer be allowed. (It makes no difference to this hypothesis whether the new-comers be exogamous or endogamous.) However, the habit of marrying relatives, whether real or classificatory, was strong, and the prohibition did not have the result that is frequently found, *i.e.* that marriage is forbidden to all persons who can trace genealogical relationship. Indeed, in the dual organization this could not happen without the collapse of the moieties, because in this system all persons are related to each other in some way or other: so, one relative being forbidden by the newly developed public opinion, another must be sought, and would naturally be found in the daughter of the previously legitimate spouse, who herself now became the mother-in-law. This new marriage would have upset

[1] I am indebted to Mr. Sydney H. Ray for the following information, which I received after I had written the above:—"The words generally seem very different to the Melanesian of further north, although a few are recognizable. The *-k* and *-g* finals are probably the first person suffix, 'my,' and *-n* the third, 'his.' '*Tata*,' for 'father,' is probably the vocative, or the word for 'my father.' . . . The only terms which seem to come from outside would appear to be *cawa*, *neta-k*, *engu-k*, *tata*, but one cannot make much of them. The primary meaning of *sag* is 'my companion,' 'my mate.' *Sawa* in Indonesia (Celebes and Philippines, I think) is sometimes 'husband,' sometimes 'wife,' *i.e.* 'spouse.' The New Guinea forms are *asawa*, *adawa*, etc." Thus my supposition that *cawa* and *engak* might be introduced terms and *niuk* and *membyug* should belong to the dual organization, is supported on linguistic evidence. It is very interesting indeed that Mr. Ray should consider that the term for "father" and "child" may also come from the outside, and this strongly supports the hypothesis that I have put forward, that the change in reckoning descent which brought in the close association of father and child is due to foreign influence.

the original nomenclature which would have adapted itself to the new marriage in the usual way, *i.e.* the persons who found themselves in new relationship would have used terms to express this changed social position: thus the female cross-cousin who was the potential wife became the potential mother-in-law.

The Evidence from Ranon.

So far the problem has been faced from the Balap data only, and it is now necessary to see if the hypothesis is supported by the material from the Ranon division. The

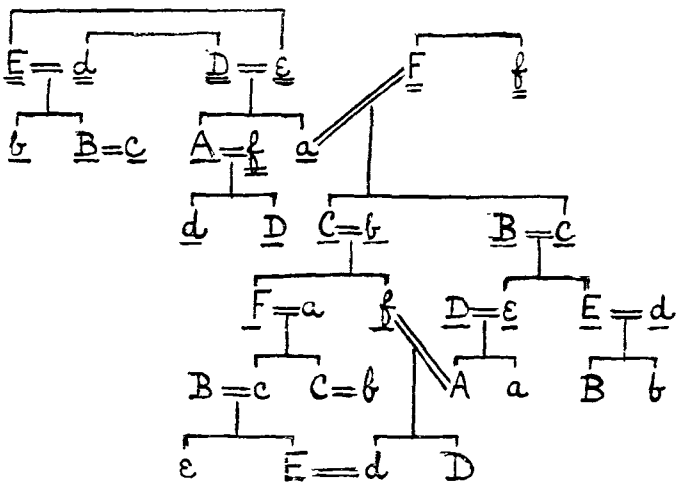


FIG. 8.—RANON.

E marries d, who is his mother's father's sister's daughter, *i.e.* cross-cousin of mother.
" " mother's mother's brother's daughter, *i.e.* daughter of cross-cousin.
" " father's father's sister's son's daughter, *i.e.* parallel generation.

Similarly—

D marries e, who is his mother's brother's daughter's daughter, *i.e.* daughter of cross-cousin.
" " father's sister's daughter's daughter, *i.e.* daughter of cross-cousin.
" " father's mother's brother's son's daughter, *i.e.* parallel generation.

E, E, and E, are separated respectively from one another by two patrilineal generations.

typical marriage at Ranon is the same as at Balap, the relationship terms are used in the same way. At Ranon, as at Balap, a man belongs to the class of his father's father and that of his mother's mother's mother (Fig. 7.) At Balap, matrilineal descent is implied as well as patrilineal descent although by means of the patrilineal institution of the *bwlum* there appears to be more emphasis laid on the patrilineal grouping. At Ranon, matrilineal descent is more obviously recognized: a man belongs to his mother's *batatau* but he still belongs to his father's *bwlum*, and the *batatau* divide society into two moieties. This division of society supports the hypothesis well, and suggests that in this part of the island either the infiltration of the strangers was a somewhat slower process or that they came in smaller numbers. I

suggested before I read the Ranon data[1] that it would be quite possible for the six-class system to be formed and run for some time alongside of the dual organization without entirely absorbing it. This appears to be what has happened at Ranon: the dual system has consciously survived after the change in the marriage laws which gave rise to the six groups.

In Mr. Deacon's diagram of Balap, A1 was shown as marrying C1, and in Diagram V, E married "a"; in his diagram for Ranon, however, A1 married C2. I therefore made a fresh diagrammatic pedigree for Ranon (Fig. 8) (based on Diagram V, p. 332), to ascertain whether this change in the lettering indicated any difference in the system. I found, as will be seen in the diagram, that, in order to carry out the scheme, it was necessary to make a slight divergence from the plan: A1 marries C2, therefore E marries the sister of D, not his daughter, as in the plan for Balap: D then marries the sister of E. F, however, has to marry some one, and, as there is no one's sister for him, he marries "a" the daughter of D, *i.e.* B2 = C1. This one marriage out of the generation upsets all the marriages thereafter: they must go "up" or "down" one generation. It is clear that if one were to supply Ed and Dg with more children, so that their offspring need not always be taken as mates by the offspring of Fa and Af, they could continue as members of a dual organization so long as cross-cousin marriage was allowed, but once the opinion of the half-breeds, that patrilineal as well as matrilineal descent counted as a bar to marriage, should have gained the ascendant, and cross-cousin marriage consequently be regarded with distavour, nothing would be left for the members of the dual organization but to merge into the six-class system. In this diagram it was necessary to consider F, and not E, as the stranger. I was surprised to find how closely this diagram (which I made only to illustrate the A1 = C2 class marriage) illustrated my own theoretical scheme. This diagram, however, shows that there is no difference between the Balap and Ranon systems: it is only the lettering that is altered, and as the classes are not named, the difference is not a real one. I think that Mr. Deacon merely changed the letters because it became simpler to show the two *batatun* by this means, the division 1 of A, B, C all falling into one *batatun*, the division 2 of A, B, C falling into the other. Changing the lettering merely illustrates the fact, of which Mr. Deacon was undoubtedly well aware, that these classes are not positive groups, but groups relative to the speaker—"my own," "my mother's," or "my mother's mother's" *beelum*: "my own" or "the other" *batatun*.[2]

Since going over the Ranon data, I came across a note of Mr. Deacon's stating that, in Epi, cross-cousin marriage is the rule, and the relationship system is in keeping with it, but descent is patrilineal.[3] This information fits well with the general

[1] *Supra*, p. 361.

[2] I am indebted to Mr. W. E. Armstrong, who in several interesting conversations pointed out to me the importance of the distinction between disparate groups and groups which are relative to the individual concerned—the latter groups Mr. Armstrong prefers to call "groupings."

[3] Now inserted into text of his article, p. 335.

scheme that the six-class system has arisen from the dual organization by the recognition of both kinds of descent and the consequent prohibition of the marriage of cross-cousins. In Epi it would appear that patrilineal has entirely superseded matrilineal descent (as a bar to marriage), *i.e.* one form of unilateral descent has been replaced by another unilateral form: hence the complicated class-system is not found there, for it is not necessary. Thus a system which may previously have been matrilineal can equally fit patrilineal ideas, but it cannot be retained when both principles have equal legal recognition.

Marriage with the Granddaughter.

With regard to granddaughter marriage recorded by Rivers for Pentecost, Mr. Deacon's suggestion[1] is one solution of the problem; he gives good reason for suggesting that Rivers was mistaken in inferring that the marriageable granddaughter on that island would be the classificatory daughter's daughter, and shows how the marriage with the mother's brother's daughter's daughter could be mistaken for that with the granddaughter, but he has said nothing about the marriage with the sister's son's daughter who, according to the Ambrym system, falls into the right marrying class, and would also do so in the dual organization with matrilineal descent (Fig. 6, A and C). Though it would be unprofitable to speculate at length about the Pentecost system, as doubtless Mr. Deacon's unpublished notes deal with this more fully, it does seem worth while recording that the marriage which Rivers inferred may actually have been between persons separated by two generations, although it could *not* have been with the daughter's daughter if the Pentecost system should prove to be similar to that of Ambrym.[2] Whether the granddaughter marriage on Pentecost is really, as Deacon suggested, marriage with the mother's brother's daughter's daughter, or, as I have suggested, the sister's son's daughter, makes no actual difference. (Reference to Fig. 8 shows that these two can, on the Ambrym system, be one and the same person. Take, for example, the relationship between C and b.) Deacon's work justifies his opinion, that the Ambrym system might "throw light on the whole question of anomalous marriages and relationship in Melanesia," and further, that "Rivers' theory of gerontocracy would require modification." But it does not rule out the possibility of marriage between persons separated by two generations, which Rivers considered an essential part of his scheme. Where the population is divided into six groups, these marriages can occur, but they have no great importance, because there is always another way by which the relationship can be traced, and there is no need for great disparity in age between the partners.

[1] See p. 327.

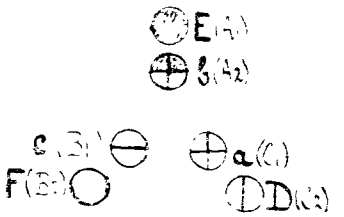
[2] Since writing the above, I have again turned to chap. xiii, vol. i, of *The History of Melanesian Society*, and studied the relationship terms given there for Pentecost Island. I hope to be able to show in a future work that these terms also correspond to a class-system, but the principle which governs the classes is slightly different from that of Ambrym, though, like that of Ambrym, it is based on descent.

However, in any system where such marriages are not excluded marital gerontocracy may crop up when economic conditions are favourable to it. With the growing importance of wealth, marriages tend to become relatively later, and old men are able to take additional young wives: this tendency may be counteracted to some extent by the inheritance of the young widows. If my scheme be accepted, no general condition of gerontocracy in Melanesia is required to explain the social systems of the area. Such a condition, however, is not excluded should economic conditions favour it. Such gerontocracy, however, would present very different social features to the gerontocracy of the dual organization that Rivers sketched, in which the old men of one moiety had marital rights over the young women of the other.

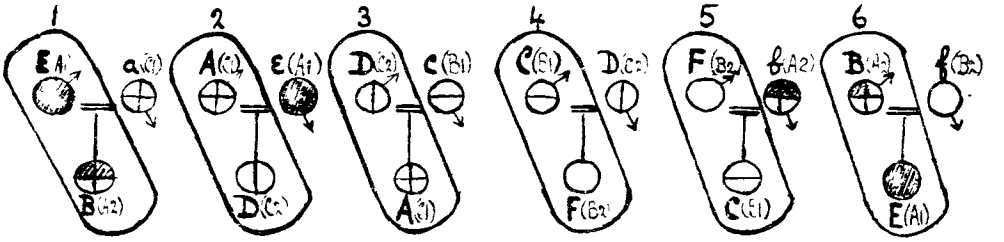
THE "CLASS" AND THE CLASSIFICATORY SYSTEM.

In writing this article I have frequently contrasted the class system of nomenclature with the classificatory system, because in a working class system there is a functional difference in the use of the terms from their use in a classificatory system, but in the diagrams and in the examination of the terms I have shown the numerous routes by which relationship can be traced in the Ambrym system. So that what is functionally simply a class-term can, by tracing relationship through certain legitimate but highly improbable routes, be seen also as a classificatory term. Even the most obvious class-grouping, such as mother's mother's mother (m.s.) (*see* Fig. 2) with the sister, and the mother with the son's wife (m.s.) can be looked upon by one route as a classificatory term. In Fig. 7, D's mother, "e," and his son's wife, "e," can be one and the same person, because "e" was potentially a wife to both A^{-} and A^{2}. Thus the class system is founded on a principle not in actual opposition to the classificatory system. All the Ambrym evidence (and the whole argument of the paper) goes to prove that the "class" system of nomenclature of Ambrym, associated with the six exogamous groups is itself a development of the classificatory system, and, as in the examples I have just shown, is a *reductio ad absurdum* of its own parent system. Thus it would seem that this system, while developing logically from the classificatory system, because of the recognition of bilateral descent, and by means of a system of marriages with certain relatives to whom genealogical relationship can be traced, has evolved into a system of classes, to which a person knows himself to be related in a certain manner, and that these classes can now regulate marriage instead of genealogical relationship. In this way the system works, so that names to the classes are quite unnecessary to the native mind, and marriage can be contracted between persons whether their actual relationship be known or unknown.[1] It is interesting to note that Mr. Deacon's informants told

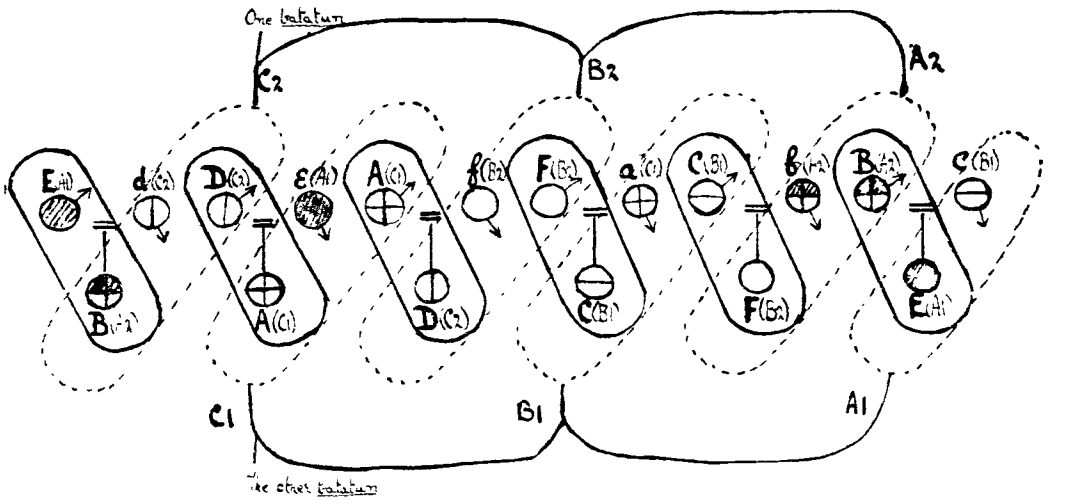
[1] From this arises an interesting point which cannot be fully discussed here, *i.e.* the possible priority of unnamed over named classes, *i.e.* the need for names to the classes only occurring if the importance of the relationship basis of the grouping should be overshadowed by the class basis, and the probable correlation of the names with spiritual beliefs—totemism and reincarnation.



A.—BALAP AND RANON.



B.—BALAP.



C.—RANON.

FIG. 9.

A.—This figure shows the original triangle of D, E, F, with their daughters arranged in an inner triangle, together with the corresponding class letters and symbols. The plan is correct for both Balap and Ranon.

B.—Shows the Balap marriages and *buclem*.

C.—Shows the Ranon marriages and the division into *batatun*. (Broken lines enclose the divisions in the female line. Unbroken lines enclose the *buclem*.)

him that the marriage with the daughter of the cross-cousin was the one "always practised," but that in working out the system it is seen that besides that with the mother's cross-cousin (which must occur if the former happen, and marriage of a brother and a sister with a sister and a brother is allowed), that with the father's mother's brother and the father's father's sister's son's son are also possible.[1]

Definition and Function of Matrimonial Classes.

It is necessary to draw attention to one more detail. The presence or absence of the marriage with the mother's brother's widow is an important feature of the Melanesian systems. Though common in the dual organization, it is clear that marriage with the mother's brother's widow is incompatible with a four- or eight-class system, because a man and his parent cannot marry into the same class: it might have been thought that in a six-class system, where the typical marriage is "up" or "down" one generation, the marriage with the mother's brother's widow would have been permissible: however, this is not so—a glance at Fig. 9, B and C, demonstrates this clearly. Whether descent is predominantly matrilineal, as in Ranon, or predominantly patrilineal, as in Balap, marriage with the mother's brother's widow is never possible, because she always belongs to the class of the father. This brings forward a point of view that has been implicit throughout this paper, *i.e.* that marriage classes, in the light of the Ambrym evidences, may be regarded, not as devices to prevent the marriage between individuals of contiguous generations (although they may function in that way), but as groups or groupings resulting from the recognition of bilateral descent.

In conclusion, Professor A. R. Radcliffe-Brown's statement concerning the Kariera of Western Australia applies to Ambrym in principle: the only difference in practice is that the relationship of the woman to her husband is not that of daughter of the mother's brother, but, the daughter of the mother's brother's daughter or of the mother's father's sister's daughter:—

> "The classes of the Kariera tribe are groups of related persons. The rule that a man of one class may only marry a woman of one of the other classes is the result of the more fundamental rule that a man may only marry a woman bearing to him a certain relation of consanguinity, namely, the daughter of his mother's brother. Marriage is regulated by consanguinity and by consanguinity alone."[2]

[1] *See also* p. 367, *n.* 1.

[2] A. R. Radcliffe-Brown, "Three Tribes of Western Australia," *Journ. Roy. Anthrop. Inst.*, vol. xliii, p. 158.

At this stage it is necessary to define the class system in contradistinction to the classificatory system.[1] The classificatory system, though it recognizes bilateral relationship, is intimately associated with the clan organization which legitimizes only one form of descent: the principle which is not orthodox in any particular system may operate officially or unofficially for inheritance and succession but is ignored for descent. The relationship system associated with so-called "matrimonial classes"[1] may be called the class system, because the terms are used with reference to "class" organization. The matrimonial classes are groups formed by the recognition of both forms of descent, and though one form may be dominant and may or may not be recognized as the orthodox form, the other form functions with it. The result of the recognition of bilateral descent is what is commonly known as "indirect descent." The four-class named systems of Australia might appear to be exceptions to this, because they allow the marriage of cross-cousins, which is incompatible with the idea of incest associated with bilateral descent. I think this need not upset the scheme, for here, by means of the use of named groups, indirect descent has so adequately replaced direct descent that, instead of both forms being recognized as bars to marriage, both forms are equally ignored in that capacity and are superseded by the classes.

[1] I use the terms "class system" and "matrimonial class" because they have been so widely used. The term "matrimonial class" has undoubtedly led to great confusion. Professor Radcliffe-Brown's use of the term "sections" does not, however, simplify matters on my hypothesis, for it suggests divisions and subdivisions (A. R. Radcliffe-Brown, "Notes on the Social Organization of Australian Tribes," *Journ. Roy. Anthrop. Inst.*, vol. xlviii. p. 222). According to Mr Armstrong's definition, the Ambrym classes would be groupings, and I can see no functional difference between them and the Australian "sections" described by Professor Radcliffe-Brown. Whether there is an ætiological difference is another question, and on my theory this would depend upon whether they can be derived directly from the bilateral family or indirectly by means of the unilateral clan with dual organization.

DEATH AND SOCIAL STATUS IN MELANESIA.

By CAMILLA H. WEDGWOOD.

WITH the exception of endocannibalism, there is, perhaps, no known method of disposing of the dead which is not found in some island of Melanesia, and even among one people as many as three or four different ways may be in use.[1] Attempts have been made to explain their presence on an historical basis. In analysing them, Rivers distinguishes certain features—such as the use of a canoe, or throwing the corpse into the sea—as being due to beliefs possible to any immigrant people who wished to send their dead to the home whence they had come: others—as, for instance, the use of caves—he interprets as a result of the contact of two peoples: a desire on the part of the immigrants to remove their dead from all possibility of disturbance by the indigenous population. But what he considers to be "the three main modes of disposing of the bodies of the dead: inhumation, cremation, and the various means by which the body or some part of it is preserved above the ground," he ascribes to different immigrant cultures, whose funerary practices reflect the different attitudes of the living towards the spirits of the departed (**34**, vol. ii, chap. 27). Whether further evidence will justify this theory or not will be interesting to the historian, but the knowledge of historical origins is not enough for the understanding of social phenomena.

A close study of the mortuary practices of the West Pacific shows great freedom of selection on the part of the individual, and yet a close adherance to traditional usage. Where alternative modes of disposal exist, the body of the deceased will often be treated according to his definitely expressed wish. In San Cristoval, though certain clans favoured certain ways, "a man said at death how he would wish to be buried" (**11**, p. 229): and, on Eddystone Island (New Georgia), though sea-burial was usually only for those who had died an abnormal death, some men asked to be buried at sea, because "they like wash all time 'long salt water" (**15**, p. 83). Occasionally an entirely unorthodox method would be chosen, as in Tanna, where a man once asked to be buried sitting in a cave so that he might view the sea (**19**, p. 90).[2] Nevertheless it is usual for funerary practices to be bound by tradition, and frequently we find that different classes of persons are treated in clearly specified ways. Radcliffe-Brown has shown that in the Andaman Islands the burial customs vary

Note.—Figures in heavy type refer to "Bibliography" (*see* pp. 396–7).

[1] In San Cristoval, C. E. Fox records twenty-one forms of disposal, which, however, may be grouped as variants of inhumation, cremation, sea-burial, and exposure (**11**, p. 217).

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[1] In San Cristoval, C. E. Fox records twenty-one forms of disposal, which, however, may be grouped as variants of inhumation, cremation, sea-burial, and exposure (**11**, p. 217).

[2] Other examples of disposal according to request are recorded from Florida (**4**, p. 254) and Mala (**4**, p. 262).

according to the social position of the deceased, ranging from the burial with full ritual of the adult, the important member of society, to that of the child for whom the camp is not deserted and only the parents go into mourning (**2**, p. 287). It is the purpose of this paper to attempt an analysis of such customs in Melanesia, in order to discover how far and in what ways the fate of the body and the soul are dependent upon the social value of the individual.[1]

The basis of every savage society may be said to be the law of reciprocity. Life entails a continual interchange of services, and in any group the members thereof are bound together by emotional, social, and economic ties. The number and strength of these will vary with different individuals, and the "social value" of any person is to be estimated by the number of people with whom he or she is thus bound up, and the strength of the bonds. For instance, the social and economic ties of a young child are weak, and the emotional ones, though they may be strong, concern almost exclusively the members of its immediate family. A slave, too, though related to his master, and perhaps even to the community as a whole by certain economic ties, has no social rights or duties, and therefore lacks social and emotional bonds. Thus for different reasons the "social value" of both child and slave may be said to be low. A chief, on the other hand, is closely bound up with all his people: he is their leader socially, politically, and economically, and often their representative to the gods; while he, for his part, is dependent upon them, their co-operation and respect.

There is a considerable body of evidence to show that, among the simpler peoples, death is not regarded as a final severance from the living, but that the living and the dead together form one community, and the funeral rites are but *rites de passage*, akin to those of birth, initiation, and marriage. Since this is so, it is to be expected that the position of a person in the other world should be, at least to some extent, dependent upon his or her status in this. The fate of the soul, therefore, as well as that of the body, must be taken into consideration, and it will be found indeed that the two are intimately connected, for the treatment of the body seems often to be dictated by the beliefs concerning the spirit.

With the exception of certain unnamed tribes in the north of Gazelle Peninsula (New Britain).[2] Melanesia may be divided into two areas. In the north, from the Admiralty Islands to the Santa Cruz group,[3] there is a belief that the dead reside in certain places on the earth, often neighbouring islands or reefs; in the south,

[1] All the available material concerning death and the disposal of the dead in Melanesia has been consulted, with the exception of that dealing with Fiji and the Melanesian parts of New Guinea. These areas have, for various reasons, been omitted from this survey.

[2] Of these, Powell records: "He only knew that the spirit went across the water to the moon at rising, and, getting into her, was carried to the region of the stars" (**30**, p. 171). From the west of New Britain there are no satisfactory records of this subject.

[3] On Nitendi the souls go to the volcano of Tinakula; but this is their home, not an entrance to the underworld (**4**, p. 264).

from the Banks Islands to the Isle of Pines, the land of the dead is below the earth or sea. Linking these areas, though absent from the Bismarck Archipelago and New Caledonia, is the belief, found also in Indonesia and Assam, that on the road to the other world is a being who examines the souls, and only allows them to pass on their way if they have certain qualifications. The nature of these, as will be shown, throws some light on the fate of the dead in relation to their social position.[1]

People vary in their status in society according to their age, sex, birthright membership of a social group, and individual achievements. The infant is of little importance to any but its immediate family, and it seems often that full membership of the community is accorded to none before attaining puberty.[2] That this is so, is indicated by the fact that it is not uncommon for certain actions, prohibited to adults, to be permitted to children. Rivers mentions that in Eddystone Island and in parts of New Guinea, for instance, infantile sexual relations between brother and sister are not considered reprehensible, though, after puberty, such conduct would be severely punished, and would be regarded as injurious to the community as a whole (**35**, p. 73 and *note*).[3] At the other end of the scale we find that aged people and those who are suffering from a lingering sickness, or who are in a physical condition from which it is believed they cannot recover, are regarded as belonging to the dead rather than to the living. This does not, I think, necessarily imply that the native conception of death is "radically different" from our own (**36**, pp. 397 ff.), but that such individuals, because they have for some time been unable to participate in the life of the community, are not a serious loss to it and are, in a sense, socially dead (**2**, p. 287). Early travellers assumed that the practice of burying them alive indicated a lack of respect, and was a means whereby the young relieved themselves of the burden of supporting an elderly relative. Such an interpretation for the custom in Melanesia is, however, as little creditable to the intelligence of the traveller as to the character of the native.[4] These beliefs concerning the social status of the very young and the very old would seem, therefore, to explain both the burying alive of the latter and the often unceremonious disposal of the former.

CHILDREN.

Unfortunately there is in Melanesia very little information about the fate of infants or children. Wherever there is definite evidence concerning the former it

[1] Another belief common to these two areas is that concerning the origin of death; the story of the old woman who changed her skin but donned the old one again on account of her grandchildren. In some islands such as the New Hebrides, other origin of death myths exist side by side with this one.

[2] *Cf.* R. Rattray (**31**, pp. 59–61).

[3] But with this should be contrasted the practice of the Trobriand Islands, where the *tabu* between brother and sister is strongly emphasized from an early age (**26**, pp. 57–8).

[4] Burying alive of the sick and aged is reported from Malekula (**41**, p. 107), Erromanga (**19**, p. 166), Tanna (**1**, p. 231), Vaté (**1**, p. 231), New Caledonia (**12**, p. 79), and Isle of Pines (**3**, p. 8).

shows that an unwanted baby, or one whose mother has died in giving birth to it, is buried alive without ceremony.[1] Still-born infants or those dying soon after birth are likewise disposed of without any ritual.[2] Older infants and children, however, though they have not the same funeral rites as adults, are treated with respect. This is probably due to parental love, rather than to any feelings that they have claims on society. The mother and father desire apparently to keep the child with them for as long as possible, and to lavish on the corpse the care they would have given to the living. In Sa'a district, Mala Island, beloved children are encased in the wooden effigy of a sword-fish, or in a canoe to await a great funeral feast some years later (**4**, pp. 261–2). In Gazelle Peninsula, New Britain, children's bodies are wrapped in bark and kept in the house (**7**, p. 349), and in the Banks Islands a favourite child is buried therein (**4**, p. 267). From Nitendi, Speiser records that a man will sometimes paint the skull of a favourite wife or child and carry the relic about with him (**41**, p. 286). In some islands, where the practice of *suti* is common, as in the New Hebrides, the mother or some other near female relative will sometimes ask to be buried with the child.[3] It seems evident that this is nowhere the rule, and is the outcome of personal feeling rather than the demands of custom. It is unfortunate that it is not generally made clear whether the forms of child-disposal recorded are normal, or whether they are exceptions resulting from a parental whim. In some cases the evidence is definite. On Goodenough Island, men, women, and children are said to be buried alike (**21**, p. 113); and on Pileni Island (Reef Isles) it is stated that carved posts are erected in the ghost-house for children as well as adults (**5**, p. 203). In Malekula, children, together with the women, are buried in the bush —unlike the men, who are finally disposed in a special burial-ground near the club-house (**45**, p. 700)[4]; and in San Cristoval they are never cremated, but are usually either placed in a food-bowl, and decomposition hastened by artificial means, or the body embalmed, or else they are wrapped in bark-cloth and set up in a corner of the hut and there left for about two years (**11**, p. 225 and 228). Of these two methods the latter is used exclusively for children. Thus, with the exception of cremation in San Cristoval, it seems that the normal mode of disposal is nowhere rigidly denied to children, but that other ways are freely practised. It would appear clear from the nature of these variants that their object is to enable the parents to keep the child with them for as long as possible, a desire which results naturally

[1] In Wango district, San Cristoval (**4**, p. 229), Erromanga (**1**, p. 319), Vaté (**1**, pp. 226–7), and Goodenough Island (**21**, p. 106).

[2] Erromanga (**19**, p. 184) and Goodenough Island (**21**, p. 106).

[3] In Maewo (**4**, p. 289) and in Anneiteum (**17**, pp. 199–200).

[4] That male children should thus be classed with women is probably because they are not members of the club-house or secret society. The similarity of this with the *Sukwe* of the Banks Islands makes it probable that, though theoretically a voluntary association, actually all adult males would belong to it. Non-membership would, therefore, imply being outside the community of adult males. (*Cf.* **34**, vol. i, p. 63, and vol. ii, pp. 228–9.)

from family affection. As will be seen later, they resemble closely the means employed to retain in the community the spirit and body of an important man. It might be hazarded also that such wide variety is only possible because the child is not bound by those regulations which control fully qualified members of society.

Concerning the fate of children's souls there are scarcely any data. Where certain qualifications are necessary for admittance to the land of the dead these are usually such as a child inevitably lacks, but on such counts women too would be excluded, and yet it is clear that they do get there.[1]

WOMEN.

The old dictum that, with certain exceptions such as the Iroquois and the Seri Indians, the status of woman in savage society is low, that she is a mere chattel or household drudge, can no longer be accepted. Though it may be true of some communities, it is certainly not true of Melanesia as a whole. It is clear, however, from many facts, such as her exclusion from secret societies and many ceremonies, that she is regarded as essentially different from men, and that she has even some spiritual quality which is antagonistic to their magical and religious practices.[2] As a potential mother, every girl who has attained puberty is, nevertheless, important to the group of which she is a member: though, since less opportunity offers, it is improbable that any individual woman will rise to such heights as can a man who, through his qualities, his wealth, or his good luck is able to excel his fellows. Hence it is to be expected that women at their death should be treated with some ceremony, though this may well be different from that allotted to men. Unfortunately we know little more concerning the fate of the bodies and souls of women than we do of those of children. In Malekula, as we have seen, they are buried in the bush, since they cannot be members of the men's secret society, but they do not lack funeral rites. In a few islands, though the ceremonies are the same for all, the bodies of the two sexes are segregated. On Santa Anna they have different burial-grounds and skull-houses (**13**, p. 53), and on San Cristoval, near Waiboroni, there are separate islets for rock-burial (**11**, p. 226), but this distinction seems to be exceptional rather than the rule, and we are told that both men and women may be placed in a *heo* (mound) (**11**, p. 219). Both have the same cremation rites, too, in the Buin district of Bougainville (**44**, vol. iii, p. 26). An interesting distinction, which recalls the custom of Assam is recorded by Codrington from Gaua in the Banks Islands: here the death-feast

[1] In the Siarra district of New Ireland and the adjacent islands of Anthony Caen and St. John, still-born children live in rocky caves and entice the living to destruction; but these souls are classed with those of women who have died in childbed, and should probably be regarded as beings who have died abnormal deaths (**29**, pp. 308–9).

[2] In information concerning secret societies in Malekula, communicated in a letter to Dr. Haddon, the late A. B. Deacon has given a striking instance of the belief in this antagonism.

for a woman lasts five days, for a man six (**4**, p. 273).[1] The presence of women in the other world may be safely inferred, since life there is almost invariably represented as a depressing duplicate of the existence of the living, and tales of visits to the land of the dead give conclusive evidence on this point (*e.g.* **6**, p. 197). Even where women cannot have the necessary qualifications to pass the guardian of the way, it is understood that they do win through. Thus, in Maewo, it is stated that only members of the *Sukwe* can reach *Panoi*, yet at the north end of the island there are three leaping-off places for ghosts, one of which is reserved for women (**4**, p. 279).[2] It seems probable that all such qualifications refer to the souls of men only, but it would be interesting to find out whether anything similar is demanded of women.

In general, therefore, it seems that differences between men and women are recognized in death as in life, but these are in virtue of her sex and do not imply that her social value is less than that of a man.[3] It is not without significance that, where the community is divided into people of different ranks, a noble-born woman will receive obsequies fitting her station (**13**, p. 51 : **32**, p. 5) ; and this seems to be true also of the principal wife of a noble-born man (**46**, p. 80).

RANK.

In any society certain individuals will inevitably be of greater importance than the mass. This may be the result of individual qualities and effort or of being born into a certain rank. A definite class of chiefs does appear to exist both in north Melanesia and in the more southern islands of south Melanesia, such as New Caledonia. In the southern islands of the New Hebrides there were head-men of villages who had considerable power, but it is not clear whether they belonged to a special social group (**19**, pp. 34–7). In the northern New Hebrides and the Banks Islands, though men are graded according to the rank held in the *Sukwe* or similar societies, yet no man is born into any rank ; membership must be acquired, and the grades are progressive, not final. It is often recorded that certain funeral rites or certain methods of disposal are used for chiefs or important men. Owing to the undesirably loose use of the

[1] Among the Lhota Nagas, in all ceremonies the number five is connected with women, six with men (**28**, pp. 138–9 ; 145–6 ; and *see* Index). Among the Tankhul Nagas, women are reborn five times, men six in the next world (**16**, p. 164). Among the Sema Nagas, at the birth of a female child a five-day *genna* is observed ; for a male a six-day (**20**, p. 233).

[2] According to Miss Coombe, in Ureparapara, Banks Islands, no woman can reach *Panoi*. "The woman's soul hangs like a bat on to creepers in the bush and waves to and fro in the wind" (**5**, pp. 123–4). This is the only definite piece of evidence of women being excluded from the other world, and since the author's stay on the island was brief, and her information received necessarily at second-hand or through an interpreter, too much reliance should probably not be placed on it. An interesting distinction between the ghosts of men and women is found in Buin. Here, for purposes of revenge, a ghost can enter an animal, bird, or plant. Women, however, are restricted to pigs and alligators, and can never enter birds (**44**, vol. i, p. 319).

[3] No sex distinctions are found in Blanche Bay (New Britain) (**38**, p. 26), Florida (**4**, p. 254), Reef Islands (**5**, p. 203), Anneiteum (**19**, p. 112), and Goodenough Island (**21**, p. 113).

word "chief," and the vagueness of the term "important man," it is usually very difficult to be sure whether a certain practice is dependent upon the individual's rank, innate or acquired, or upon his personality, or his wealth. Whichever it may be, it is clear that the importance of such a man is not only a matter of words; it is of a very practical nature, in that he is responsible for the giving of feasts, the initiation of big enterprises demanding the expenditure of wealth and the organization of labour, and is frequently the person who performs those magical or religious ceremonial acts without which the fields would not bear, the canoes would not sail, and the fish would not be caught. When such an one dies the community suffers a very real loss.

In the Bismarck Archipelago and the Solomon Islands there seems to be a difference between the method of disposing of important and unimportant people. Among the tribes of the north of Gazelle Peninsula, "chiefs" are exposed for a time in a canoe before being buried, while others are either buried in a canoe or else placed on the reef to be taken off by the sharks at high tide[1] (**30**, p. 251). From further south in this same district Danks records the disposal of a chief whose body was laid in a canoe in which a hole had been bored. Decomposition was hastened by constant washing, and the bones were eventually buried secretly to prevent their being desecrated (**7**, p. 356). Likewise, among the tribes of St. George's Channel, a distinction between chiefs and commoners is made: but here the former are taken out to sea and sunk in their canoes, while the latter are buried with little ceremony (**29**, pp. 79–80). In north New Ireland and New Hanover all are cremated; the only indication of the greatness of the deceased lies in the height of the funeral pyre (**29**, p. 273). All people seem to be buried alike in the central district also (**22**, p. 48), though, at Kono, on the west coast, it is said that chiefs are laid in a boat, from which the stern and prow have been removed, and interred in this (**22**, p. 48), while commoners have no coffin but a plank-lined grave. On the east coast, at Panegundu, Kramer writes that the people "legen ihre Leichen gern auf ein Boot, das sie treiben lassen oder die Leiche wird in Matten gewickelt und ins Meer versenkt" (**22**, p. 48). The force of the word "gern" is not altogether clear, but it suggests that the first method was employed for those who were considered of sufficient importance to be worth the trouble which it involved. There is no indication that it was reserved for members of any specific social group. Further south again differences are found similar to those in New Britain, for in the Siarra district and neighbouring islands[2] chiefs and rich men lie in state, are buried, and later the skulls exhumed, while lesser people are

[1] This does not altogether agree with Parkinson, who says that once he saw a man exposed in a coffin, but that this was very rarely done: normally all were buried, the ritual being more elaborate for important men. It is never very clear in Powell's book as to what tribe his remarks refer, and it is possible therefore that he and Parkinson are writing of different ones (**29**, pp. 74 ff.).

[2] The islands of Anthony Caen and St. John, together with the Siarra district of New Ireland, form one culture area. To avoid unnecessary repetition, this will be referred to throughout this paper as the Siarra district.

wrapped in mats and sunk outside the reef (**29**, pp. 307–8). In Buin and the Bombatana district of Choiseul, though chiefs are of great importance the distinctions in their funeral rites are those of degree and not of kind, for, as in New Hanover, every one is cremated (**44**, vol. iii, pp. 27–8). In the islands lying in the straits between Bougainville and Choiseul, however, there are three modes of disposal: those born of chiefly rank are cremated, commoners are buried, while sea-burial is given to those of least importance (**46**, pp. 64, 78 and 81).[1]

Of all parts of Melanesia, the Solomon Islands are perhaps the richest in forms of burial, yet these are for the most part practised according to taste rather than rank (*see* above, p. 377). In certain places some distinctions are made in relation to status. On the east coast of Ysabel[2] and on Eddystone (**15**, p. 82), chiefs were buried or exposed in a special enclosure, and in Florida (**4**, p. 254) they sometimes have their graves in the village instead of in the gardens, which is the normal custom. In the Sa'a district of Mala, though inhumation is customary for all people, very great men are occasionally put into the effigy of a fish or into a canoe and kept there until sufficient wealth has been accumulated for a great funeral feast, when the body is buried (**4**, pp. 261–2). This preservation of a chief has clearly the same purpose as the encasing of a favourite child, also practised in this area, and is frankly only intended to be temporary (*cf.* above, p. 380). But here sea-burial is also used for both chiefs and commoners, "either at the request of the deceased or to save trouble"; and exposure, sometimes accompanied by the frequent washing of the corpse, was formerly employed (**4**, pp. 262–3). Whether this last was exclusively for the distinguished dead is not quite clear (**4**, p. 263). In San Cristoval, in the Arosi district, cremation and sea-burial are open to all (**11**, pp. 227 and 228).[3] Even disposal in a mound (*heo*), though particularly associated with the chiefly clan, is not restricted to it, nor do chiefs use this method only (**11**, pp. 218–9).[4]

As regards the fate of the soul, no true distinction appears to be made between chiefs and commoners, except in two islands. Among the Usiai of the Admiralties there is a belief in an unpleasant place to which all evil-doers go, and thither also must go chiefs and wealthy people, because the spirits envy them the prosperity

[1] According to Ribbe (**33**, pp. 59, and 102–3), inhumation is never practised in the islands of Alu and Fauro; commoners are always buried at sea.

[2] Sarmiento wrote: "They have sacred places wherein they bury their chiefs, and the common people outside" (**42**, p. 89).

[3] Slight distinctions are made between important and unimportant men, for the skulls of the former are kept, if the body is cremated; and, if it is sunk in the sea, the body is carefully wrapped up and fixed in a prone position, while commoners may sit or stand.

[4] According to Codrington (**4**, p. 258), in Wango, at the south-east extremity of the Arosi district, commoners are thrown into the sea, and great men buried and some relic of them preserved. Fox's work on San Cristoval shows that this is not quite accurate, and that such clear-cut distinctions between the great and the insignificant cannot be drawn in this area. It is probable that similar statements concerning Savo (**4**, p. 255) and Ulawa (**5**, p. 251) are equally misleading.

which they had in this world (**29**, p. 386). In San Cristoval the situation is reversed: here none but those whose ears are pierced may reach the land of the dead, and the privilege of this mutilation is reserved for members of the *Araha* or chiefly clan, and those who, through the giving of feasts, have obtained inclusion in it (**11**, pp. 234 and 298).[1]

In the Banks Islands and the New Hebrides, where there can hardly be said to be a class of chiefs, the only differences in the funeral rites of a great and an unimportant person lie in the duration of the mourning period, the number of the death-feasts and the construction of the memorials erected (**4**, pp. 271, 272, 282 and 287). There is some evidence that at Port Olry (Santo), in north Malekula, in Ambrym (**4**, p. 288, *note*),[2] and in Anneiteum the method of disposal did vary according to rank. At Port Olry (**41**, pp. 118–19) and in north Malekula (**45**, p. 707), "chiefs" are said to be exposed (and in the latter place their bones are subsequently buried), while ordinary people are interred. In Anneiteum (**19**, p. 111), Humphreys reports that formerly a few men of very high standing were buried in an erect position with the head above ground so that the skull might be preserved: to-day chiefs and commoners alike are thrown into the sea. Again, in the Loyalty Islands and in New Caledonia, mortuary rites for chiefs and commoners are very similar. Ella records from Uea (**10**, p. 642) that the latter receive sea-burial while the former "and other notabilities" are placed in caverns in various positions: but Mrs. Hadfield (**14**, pp. 216–17), whose knowledge of these islands is probably more intimate, mentions no such distinction. Of New Caledonia, Glaumont writes, after describing the funeral of a chief: "Pour les chefs canaques les cérémonies funèbres sont, comme fond les mêmes que pour les autres Canaques, mais beaucoup plus grandioses" (**12**, pp. 129–30). There is this difference, however, that chiefs sometimes undergo a process of embalming and desiccation. Unfortunately we are not told what is done with the body afterwards (**12**, pp. 128–9).

Throughout south Melanesia, therefore, there does not seem to be a close correlation between any definite rank and form of burial. Such different methods as there are appear to be employed according to individual worth, rather than to membership of a certain social group. For the most part, the more important a man is the more elaborate and lavish are the ceremonies (in wealth and human life), the longer is he mourned, and the greater is the number of his mourners.[3] The fate of the

[1] Since the land of the dead is a reflection of the land of the living, great and wealthy people are more fortunate in it than the poor, since they retain the importance which they had on earth. In Buin a certain difference does exist, for the ghost of a chief, wishing to enter into a living thing for purposes of vengeance, chooses only an animal, never a plant as others may do (**44**, vol. i, p. 319).

[2] Lamb (**23**, p. 118), writing of chiefs in some villages of Ambrym, says that those of the highest rank were laid out in the hut and a fire was kindled underneath. The corpse was watched until the end of the mourning period, after which the hut was closed and it and its contents deserted.

[3] It is interesting that, writing of Ambrym, Rivers reports that if the deceased were a member of the *Mangge*, the funeral rites were the same as those which took place when he obtained his last rank in this organization (**37**, pp. 231–2).

soul is in some islands dependent upon certain qualifications, but, except in Maewo and Raga, these do not relate, directly at least, to rank (*see* below, p. 394). In the two islands mentioned, membership of the *Sukwe* (or its equivalent) is a *sine qua non* of reaching the land of the dead. But as suggested above (p. 380), such membership is equivalent to being recognized as one of the community of all adult males rather than of a select association.

But, even where in north and south Melanesia we do find differences in kind in the death ceremonies, a closer examination of them would seem to show that they may arise from a similar desire to honour important members of society or to retain their help, or else to despatch, with as little trouble as possible (as, for instance, by throwing into the sea), those who are in death, as in life, of little value to it. In many parts of the world it is a common belief that the soul does not finally depart from the land of the living until the decomposition of the body is complete. Where this belief is held it would be intelligible if the living employed special means to keep with them for as long as possible the bodies of those dear to them and of important people. This could be done by exposing the corpse (so that it would be in the sight of all, instead of hiding it underground or in the sea), by desiccation, or by embalming. There is, too, in Melanesia a very definite belief that the soul of a dead man will visit the land of the living and take up a temporary abode in some relic of its earthly body. This is avowedly the reason for taking special precautions to preserve the skull of a dead man of importance, and rules out of court any method of disposal, such as sea-burial, by which the whole body is lost. It cannot be without significance that, in the majority of cases in Melanesia, in which important and unimportant people are differently treated at death, the difference is that the former are exposed, or preserved, or placed where some portion of the body can be recovered. Further, among several tribes, exposure or temporary preservation is followed later by the method of disposal used for common people.[1] In some places we find for great men what appears to be the converse of preservation; that is, the washing of the body in order to hasten decomposition. It is, perhaps, possible to explain this, on the grounds of a desire to retain the relics of the deceased and yet avoid the discomforts of long association with the decaying body. For the Solomon Islands, however, where there is a highly developed cult of the dead, Codrington suggests a not improbable alternative explanation: "The distinction is between ghosts of power and ghosts of no account, between those whose help is sought and their wrath deprecated, and those from whom nothing is expected and to whom no observance is due" (**4**, p. 253). "In these methods of disposing of the distinguished dead, whose ghosts are expected to be *lio'u*, possessed of power, there may be seen very probably

[1] In north Malekula (**45**, p. 707); Sa'a district, Mala (**4**, p. 262); North Gazelle Peninsula, New Britain (**30**, p. 251); Admiralties (**32**, p. 5). There is no reason probably for supposing that the practice of throwing the ashes of a cremated chief into the sea, as is done in Alu, is related to the sea-burial of the commoners.

the effect of the belief, of which mention has been made, that the ghost continues weak while the corpse continues to smell; the *lio'a* of the dead man sunk in the sea, burnt, enclosed in a case or rapidly denuded of flesh, is active and available at once" (**4**, p. 263). The custom of burying important people in the village or in a special enclosure, recorded from Ysabel, Eddystone, and Florida, would seem to show the same desire for the dead to be in touch with the living, though it may be only honorific. Thus, exposure, preservation, defleshing, and certain forms of burial may all be explained as the outcome of a desire to ensure for the community the continuity of that assistance which the deceased gave to it while alive. It is not because a certain class of society is historically associated with a certain funerary practice, but because the members of that class, or, where class-distinctions are absent, certain individuals, are valuable to society, that they are treated in a certain way at death. I would emphasize the fact that the position of a chief in savage society is not one which conveys privileges alone. The community is as dependent upon its chief as he is on it, for without him to perform the necessary ceremonies no activity of any importance could be undertaken. This is perhaps especially true of Melanesia. Though political affairs are discussed at length, and though their decision is apparently dependent to a great extent upon the verdict of the chief, actually it is determined by traditional usage to which the chief does but give expression. It is as performer of magical and religious ceremonies, as initiator of activities, and as giver of feasts, that he is essential to his people.

SLAVES AND STRANGERS.

At the other end of the social scale from chiefs and important men are slaves and strangers.[1] These are usually treated with scant ceremony. They did not belong to the community of the living and will therefore have no place in the community of the dead. Their souls are of value to no one. In Eddystone they were thrown into the seas, for their skulls were not wanted, the explanation being given: "He no belong this place" (**15**, p. 82). What their ultimate fate is, is not clear; probably no one troubled to think about the matter. It seems, however, that those who were killed at a chief's funeral were not everywhere believed to accompany him as servants to the next world. In Vannicoro, too, strangers appear to have been given sea-burial. Dillon was told that one of the survivors of La Perouse's expedition, who had lived on the island for many years and eventually died there, had a stone tied to his feet and was cast into the sea "according to the custom of the country" (**8**, vol. ii, p. 215), though the normal mode of disposal there is burial. Of Alu and Fauro in the Solomons, Ribbe records that slaves there suffer a similar fate (**33**, p. 103). Enemies taken or killed in war are also outside the community, but they are,

[1] Slaves in Melanesia are always people, either women or children, who have been captured from other tribes as an incident in fighting. They are, as a rule, well treated, but they cannot, of course, be regarded as members of their captors' tribe unless formally adopted into it.

in addition, sometimes considered dangerous to it. This may be the reason for the practice in some villages in Arosi of reserving cremation for those taken in war (**11**, p. 228); and with this may be compared the burning, on Tanna, of the corpse of a man accused of black magic, the object being to destroy all possible evil influences which the deceased might have (**19**, p. 90). On Goodenough Island, though the bodies of dead enemies are not burnt, it is said that the people "used to pray to Vivilua [who lives in the sky], whenever they returned victorious from a fight, that he would take their victims' souls up with him to the sky, so that they might never stay behind and haunt them" (**21**, p. 89).

KINSHIP GROUPS.

Among a few islands, however, the fate of the body and soul do seem to depend upon membership of a definite social group; but, if it is possible to draw the distinction, this group is one of kinship rather than rank. One instance has already been mentioned from San Cristoval, where only members of the *Araha* clan can reach a pleasant land of the dead (*see* above, p. 385).[1] In this island, too, though no clan claims an unique method of disposal, yet certain ones do favour definite forms. Burial in a *heo* is, in the Arosi district, specially associated with the *Mwara* and *Amaeo* clans, as well as with chiefs (**11**, p. 219): the *Ataca* and *Amaeo* are mostly buried round sacred trees (**11**, p. 229); while the *Araha* were definitely never interred in a sitting position (**11** p. 229). From Savo, Woodford records a curious distinction. At the birth of a child the mother is asked whether it belongs to the sea or the land. On death, a person is buried on land or thrown into the sea according to the mother's reply (**47**, p. 37). No explanation of this is offered, but it would be interesting to know whether the difference between land and sea children has any reference to beliefs concerning the mechanism of procreation. In Vaté, though disposal is the same for all, the life after death depends in part upon the clan of the individual. According to tradition, *Sara*, the guardian of the way to the other world, has four officers. On the approach of a new soul, he asks one of them, "Who is it?" If the reply is "One of ours," all is well: but if it is "I do not know," then the soul is killed. Macdonald, who reports this, does not suggest an explanation for the phrase "One of ours," but he goes on to say that *Sara* belong to the Yam clan, and allows all of that clan to pass safely. For this reason people try by twisting yam garlands around their heads, to pose as members of his clan, but from the withered condition of the leaves *Sara* detects their ruse. Some other unspecified clans there are, whose members are given leave to pass if they will strip off and give to him the scarification marks which they have on their bodies (**24**, pp. 728–9). The possible meaning of this

[1] But since adoption into this clan is now possible through the giving of feasts, this is, perhaps, no longer to be regarded as a distinction based upon membership of a kinship group, but upon wealth.

is discussed below (*see* p. 394). Unfortunately very little has been recorded of the social organization of Vaté, but it would seem from the above that here, as in San Cristoval, clan membership is of some importance to the future life.

ABNORMAL DEATHS.

A belief, common to many peoples of Assam, Indonesia, and Melanesia, is that people who have died in a certain way are abnormal, and that this must affect their treatment in this world and the next. They may suffer only because they cannot receive the proper funeral rites, and so are earth-bound; or they may have reserved for them a special abode in the land of the dead. This is not necessarily less pleasant than that of normal men, but it is distinct. In Melanesia the forms of death which are considered abnormal vary somewhat from people to people, but, wherever such a differentiation is made, death by violence, whether in battle or by stealth, belongs to this category.[1] The treatment given to the bodies of those who have died thus is usually normal, except in Buin, where, though they are cremated, and with much honour, this must be done on the evening of the day of their death, not at the rising of the morning star, which is the correct time for funerals (**43**, p. 131). Among the Sulka of New Britain, too, such people are not buried in their houses but where they die, or else are exposed on the mountains (**29**, p. 186). It is more especially in the fate of their souls that people who have died by violence differ from others. In the Siarra district of New Ireland they go to Anthony Caen Island, where, during the day they reside in two rocks, and during the night flit about like flames (**29**, p. 308). In the Banks Islands (**4**, p. 276) and in Raga (**4**, p. 288) they do indeed go to the underworld, *Panoi*, but there they are segregated. Codrington writes: "There is a further belief that there are compartments, enclosures, fenced apart, in which those who have died violent deaths keep together; those who have been shot are in one place together, those who have been charmed to death in a second, those who have been clubbed in a third together." This may very probably, however, be only an extension of the belief that all ghosts are lodged according to their character and life (**4**, p. 273).[2] These variations cannot be regarded as associated with a class of warriors as opposed to others. The cause of death, not the pursuits in life, is the deciding factor.

In north Melanesia there is, too, a close association between those who have died in battle and those who have died by falling from a tree. This, among the people of Assam and north Melanesia alike, seems to be regarded as a peculiarly undesirable fate. In Gazelle Peninsula such a person may not be touched (**43**, p. 134); and in Buin, though he may be cremated, the body must be placed on the pyre in the position

[1] This presupposes that the body is recovered from the enemy. When it is not recovered the soul is almost always earth-bound.

[2] He continues: "There is also the notion that there are *sura* [entrances] appropriated to particular classes of ghosts; as the *sura tupa*, where the simple, harmless people congregate, and the *sure lumagar*, where youths go who die in the flower of their age." Compare with this the similar belief of the Mao Nagas (**16**, p. 161), and in Borneo (**18**, vol. ii, p. 46).

in which it was found (**43**, p. 134). By the people of Runongo Island (New Georgia) the corpse is buried instead of being exposed, and big stones are placed on top so that the ghost may not "look back" (**15**, p. 101): while, on the neighbouring island of Eddystone, these, and women who have died in childbed, are thrown into the sea without any ceremonies, no memorials are erected to them, and they are said to become malignant ghosts who cause others to perish in the same way as themselves (**15**, p. 81). The reason for the fear of these unfortunates, which such practices imply, seems to be, not only that they are by nature hostile to the living, but that they are in some way accursed and dangerous because of this curse: either because it is contagious, or because the being who caused the death is jealous of any respect paid to the victim.[1] The Sulka and the people of Buin give clear evidence that among them such a death is regarded as an "act of God," for the former attribute it to a spirit whose secret name is *Ingiet* (**43**, p. 134), the latter to the great spirit *Oromrui* (**43**, p. 134).

There is nothing to suggest that those who have died by violence are dreaded for the same reasons, or even that they are dreaded at all, yet there is undoubtedly a connection in the other world between the two forms of death. In the Gazelle Peninsula, Buin, and Choiseul, the colour black is associated with those who have died normally, red with those who have fallen from a tree or been killed.[2] Among the Sulka, the latter must drink of the blood-red water in which they have bathed (**29**, p. 187, and **43**, p. 134); in Buin, they must bathe in a red lake, others in a black (**43**, p. 130)[3]; while in Choiseul there are two chiefs of the other world, a black one for those who have died naturally, a red for others (**44**, vol. i, p. 320).

Besides these two allied forms of abnormal death, which are widely recognized in Melanesia, there are others with a more restricted distribution. These include death in childbed,[4] death from certain kinds of disease,[5] and the deaths of still-

[1] The danger from contagion of such a death is suggested by the custom of the Lushei-Kukis of Assam, who lay the body of a man who has died thus in the forge, if it is necessary to bring it into the village at all (**39**, p. 86).

[2] A similar association between those who have been killed or died from an accident with the colour red is found in Borneo, where it is said such people go to a valley in the land of the dead where there is a lake of blood, and by it they dwell in comfort (**18**, vol. ii, p. 40).

[3] Thurnwald gives another account also, according to which those who have died by violence or have not been cremated live in a red world, those who have been poisoned or killed by magic in a black one. The lords of these two worlds are antagonistic. Since death from natural causes is not recognized, death from poisoning or magic probably includes all those who do not belong to the first category (**44**, vol. i, pp. 318–19).

[4] In New Ireland (**29**, p. 308), New Georgia (**15**, pp. 101–2), and Banks Islands (**4**, p. 275).

[5] In New Georgia, lepers and those who have died of wasting sickness (**15**, pp. 82 and 102); in Motlav, the ghosts of men who had ulcers and sores are driven out of the villages; and in Maewo, these have a special jumping-off place for the next world (**4**, pp. 271 and 279); Raga, those who have died of a cough are segregated in *Panoi* (**4**, p. 287). In San Cristoval consumptives are always buried at sea, since the cause of the disease is that the soul has been taken by a certain sea-spirit (**11**, p. 249).

born children[1] and lunatics.[2] Still-born children are clearly not members of society; the first *rite de passage* has never been performed for them, and therefore it would be absurd to perform the last. The treatment of the lunatic seems, in Eddystone, to be due to the fear of the bush spirit which caused him to lose his wits, while in Lifu he was buried alive, lest through his converse with supernatural beings he should obtain superhuman powers to work evil.

Apart from the practice in San Cristoval of throwing the bodies of consumptives into the sea, which is logically explained by the natives, no definite reasons are given for the special treatment of those who have died of various diseases. It is possible that one may be the belief that the presence of the disease indicates that the victim has, by incurring the wrath of some supernatural being, alienated himself from the community.[3] It is also, perhaps, significant, in connection with the fate of the ghosts of people with ulcers and sores, in Motlav and Maewo, that one of the most common results of violating food tabus, especially those relating to any animal cult such as totemism or the belief in an animal familiar, is that the transgressor breaks out into sores and boils. If the fear of an angered spirit were the correct interpretation of the special treatment allotted to such diseased persons, then they may be compared with those who have fallen from a tree in Buin and the Gazelle Peninsula. Another possible reason is that the living are afraid of some magical infection. This would not account for the practice of Motlav and Maewo, where it is the spirit, not the body, which has an abnormal fate, but it might hold in connection with the New Georgia treatment of lepers and those who have died from a wasting sickness, though here one suspects that it is the malice of the ghost rather than the danger of the corpse which is dreaded.

The attitude towards women who have died in childbed varies very greatly among the simpler peoples. In Borneo they are given a place apart from others, but it is one of honour, for they dwell in comfort by the lake of blood as the wives of those who have died in battle (**18**, vol. ii, p. 40). In Melanesia generally, however, they seem to be regarded as undesirable, not because the manner of their death declares them to be evil, but because they are envious of the living and desire to kill them, or, if the baby has survived, because the dead mother longs to find it and take it with her.

It is interesting to note that suicides do not appear to be considered either abnormal or dangerous. The evidence for this is mainly negative, but in Eddystone Island female suicides, though they wander on earth and have

[1] *See* above, p. 381, *n.* 1. In Siarra district their souls are classed with those of women who have died in childbed (**29**, p. 308).

[2] In Eddystone Island (**15**, p. 264) and Lifu (**14**, pp. 201–2).

[3] *Cf.* the Gonds of Chota Nagpore, among whom the relatives of one whose wounds or sores are verminous at death temporarily lose caste.

dealings with the living, yet do them no harm. They are not feared and their skulls are kept[1] (**15**, p. 263).

"ETHICAL" DISTINCTIONS.

It is perhaps significant that, though people who have died abnormal deaths have a somewhat different after-life from the bulk of humanity, there is little to show that such a life is generally regarded as better or worse than that of normal people.[2] This may be due partly to our lack of information, for the evidence is on the whole negative. Perhaps it is safe to assume that where such ghosts are said to harass the living they are earth-bound, and this may be because they have not received their proper burial rites.[3] The correct performance of these is, amongst nearly all peoples, a necessary condition of admittance to the land of the dead. Writing of Mono, and the failure of those who have died a violent death or fallen from a tree to reach Bareka, Wheeler points out: "We . . . have the suggestion that the *Nunu* (soul) cannot go to Bareka without the body, that is, unless the death-rites are carried out" (**46**, p. 99). As shown above, it is only to people who are for some reason alienated from the community that these are denied. Sometimes, however, it is one particular rite which is deemed essential. This may be equivalent to demanding a wealth-qualification. In Maewo, pigs must be killed at the funeral, or "they think the dead man has no proper existence, but hangs on tangled creepers" (**4**, p. 282). Similarly, according to the people of Vao (**41**, p. 104), Gazelle Peninsula (**29**, p. 79), and Mono (**46**, p. 97), wealth, in the form of pigs, "shell-money," or arm-shells, must be sacrificed so that the deceased may purchase a free passage from the guardian of the way.[4] Macdonald, however, suggests that such rites do not imply that the deceased must be wealthy, but that he must be a man who was held of good account by his fellows. Referring to the pig-killing in Vaté, he points out that, though the ability to make the soul comfortable with plenty of pigs depends in part upon wealth, it also depends upon the willingness of the survivors to put themselves to considerable

[1] It is not definitely stated that they are earth-bound. A common way of committing suicide in Melanesia is to climb to the top of a tree and thence throw oneself down. This form of death may possibly be included under death from falling from a tree, and hence be considered abnormal, but the evidence seems to show that the latter is always regarded as an accident. It is interesting that in the Trobriands suicide is a recognized way of atoning for the breach of certain customary laws; but in the case reported by Malinowski there is no suggestion that the body was disposed in any but the normal manner (**25**, pp. 77–9).

[2] On Goodenough Island, according to a belief held by a few, those who have died fighting go to the sky where life is pleasant, while others lead a tenuous existence in Wafolo (**21**, p. 146).

[3] In the Banks Islands a woman who has died in childbed haunts the earth and is much feared. She is not unable to reach *Panoi*, but the earth holds her because she is trying to find the infant which she left behind (**4**, p. 275).

[4] With this may be compared the custom in Borneo (**18**, vol. ii, pp. 44–5) and among the Lhota Nagas (**28**, p. 157), of burying a valuable bead to ensure a safe journey to the soul. Sometimes a creature is killed to force, not purchase, an entry: *e.g.* in Vaté, a dog is killed for a chief, so that *Sara* may be frightened away (**24**, p. 729); and in Assam, among the Tankhul Nagas "it is incumbent on the living to provide a buffalo for the burial feast, in order that its mighty ghost may open the massy gates" (**16**, p. 160).

trouble and expense, and, therefore, indirectly, upon the desirable or undesirable type of life led by the deceased (**24**, p. 730). This suggestion cannot be dismissed as the outcome of missionary prejudice for in the Bismarck Archipelago, and in some islands of the New Hebrides, it has been attested by ethnographers, as well as by missionaries, that the fate of the soul is determined by ethical considerations. According to Parkinson, among the Usiai of the Admiralty Isles, evil-doers, liars, and murderers go to the place of bad spirits (**29**, pp. 386–7); and the Sulka are said to believe that only the generous reach a land of the dead all others go farther south and are changed into rocks (**29** p. 187). In the central district of New Ireland the souls are judged by the giant *Galaw*. If they are good they enter *Kutimun*, a region of bliss, but if they were thieves, adulterers, or did not show due respect to their parents, they are thrown into a fire and so destroyed (**22**, p. 47). Further south, people of unpleasant disposition are chased away from the entrance to the other world by the souls already there (**6**, p. 197), and in the Banks (**4**, p. 275), Raga (**4**, p. 279), Maewo (**4**, p. 280), and Anneiteum (**19**, p. 112) a similar division is made between the sheep and the goats. It is clear that where such ethical distinctions are made the fate of the undesirable souls is not only different from that of others, but it definitely involves annihilation or suffering of some sort, and is, therefore, retributive. In the Banks Islands and northern New Hebrides the punishment consists in the revenge which those already dead wreak upon the new-comer who has injured them or theirs: but in Anneiteum it is said that "the future home of the deceased is divided into two parts . . . one part is for the good and the other for the bad, although ideas of reward and punishment seem to be rudimentary. Perhaps the greatest sin is stinginess"[1] (**19**, p. 112). These distinctions between the good- and the evil-liver have no relation to religion, as is sometimes implied by the missionary: they are but another way of differentiating between those who have been of service to the community and those who have not. It is for this reason that so much stress is laid on generosity and that "stinginess" is penalized, for to be generous is but to acknowledge the claims which society has upon the individual.

Distinctions between the Dead for which No Explanation is Offered.

Other islands have rites, essential for the peace of the soul, which have no obvious significance. In Goodenough Island for instance, the corpse must be laid on the right and not the left, side (**21**, p. 120). Why such formalities are important we

[1] These are the only reliable records of any ethical distinctions. In the northern Solomons, Wheeler definitely states that they are absent (**46**, p. 97).

cannot tell, since the authorities have failed to mention under what conditions, if any, they are omitted.[1] Elsewhere in Melanesia other apparently equally arbitrary conditions are necessary for admission to the land of the dead. These refer to certain physical mutilations. In Bugotu district of Ysabel, those who have not the conventional mark of the frigate-bird scarred on their hands are thrown from the bridge over which they must pass and so perish[2] (**4**, p. 257); in Florida, the nasal septum must be pierced (**4**, p. 256); in Mota, the ears (**34**, p. 265 *note*); while those in Maewo who have not the correct body-markings may not eat good food, those with unpierced ears may not drink water in *Panoi*[3] (**4**, p. 289). On Vaté, as mentioned above, people who are not of the yam clan must have on their bodies certain cicatrizations[4] (**40**, p. 10, and **24**, pp. 728 9); on Goodenough Island no one who has not a finger amputated can be at peace (**21**, p. 145). It is not clear why these bodily marks should be necessary for the good of the soul, for in the majority of cases we do not know the reason for, nor the occasion of, their infliction. Strangely enough there does not seem to-day to be any evidence that ear-piercing, nose-piercing or scarification of men are associated in Melanesia, as they are in many parts of the world, with any definite stage in physical or social growth. They may perhaps be only necessary as marks of membership of the tribe, and have no deeper significance, but our information on these matters is not very extensive. Those on Goodenough and Vaté, however, appear to be connected with a respect for the dead. In the former island, any near relative of a dead person is expected to cut off a joint of a finger, though to-day no opprobrium attaches to any who do not do so (**21**, p. 145). Concerning the customs of the latter island, Macdonald writes: "These marks were sometimes cut into the flesh in mourning . . . and sometimes in the worship of a being called *Wote*, as it seems—certainly in the former case" (**24**, p. 729). If funeral rites have the great social importance claimed for them by Durkheim (**9**, pp. 396 ff.), Radcliffe-Brown (**2**, pp. 285 ff.), and Malinowski (**27**, pp. 46 ff.), if they are valuable in that they help to preserve social solidarity in a period of strain and emotional disintegration, then any failure to perform such rites in the approved way is to be definitely anti-social. Thus in these two islands, again, happiness after death is at least partly

[1] It is, of course, possible that these rites are not in themselves specially important, but that in reply to questions as to their meaning, they were said to be necessary for the happiness of the soul just because they were the custom, and what is customary must be done.

[2] This appears to be a close parallel with the belief of the Kayan of Borneo, that, if a man has his hands tattooed, he is able to cross the bridge which spans the river of death, but, if not, he falls below and is devoured by a large fish. Here, however, the tattooing of the hands is a sign that the man has taken a head (**18**, vol. ii, p. 41).

[3] The need in San Cristoval for the ghost to have his ears pierced is, as has been shown above, really a class distinction.

[4] Somerville implies that any one with these markings is safe; Macdonald, only those of certain (unspecified) clans.

dependent upon the individual being a satisfactory member of the community in life.[1]

CONCLUSION.

We have been concerned in this paper with the relation between the social value of an individual and the fate of his body and soul at death. It must not be forgotten, however, that the disposal of the corpse is only one incident in a complex series of negative and positive rites. The loss of any of its members is a shock to the community and is liable to throw it out of gear. The grieving relatives are particularly in need of the sense of support which by sharing their mourning, the other members of the group can give. The funeral rites of any people are a stereotyped form of reaction by which the disintegration of the community is prevented and equilibrium is restored. The more important the deceased the ruder the shock to society and, therefore, the more pronounced and elaborate the reaction. A complete study of the relation between treatment at death and social status would, therefore, demand a detailed analysis of the behaviour, formal and spontaneous, of all members of the society in the presence of death. Unfortunately the material for such a study is not yet available.

To sum up, we find that in Melanesia the distinctions made by people in life are reflected in those made at death. Of these the simplest are those made between children and adults, and between men and women. But more marked are those which differentiate people who, by virtue of their wealth, their valour, or their magical or secular power, are important to the community, from those who lack any claim to public esteem: while those who have alienated themselves from society or endangered it by bringing upon themselves an abnormal death are frequently cut off from the general communion of the dead. In San Cristoval, it is true, and perhaps also in Vaté, membership of a kinship group rather than social importance would seem to be a deciding factor, but even there one may question whether it is the only one or even the most important. Prestige is not ignored. Further, the nature of the distinctions is for the most part such as might be deduced logically from what we

[1] While in Malekula, the late A. B. Deacon collected a remarkable series of geometrical drawings. In a letter to Dr. Haddon concerning these he says, that one of them, called *Nahal* (the path) is connected with the dead. On its way to the other world a ghost comes to a rock where sits the demon *Tomes Isarsap* with this figure drawn on the ground before him. The path of the dead lies between the two halves of the figure. As the ghost approaches, the demon rubs out half of the figure, and this must be drawn again correctly by the ghost before it can go on its way. Those who fail are eaten by the demon. Two generations ago a famous warrior, who had never learnt the figure, returned to the land of the living for his weapons and then slew the demon. This is a very peculiar test, and it is hoped that when Deacon's notes are published, further information concerning these drawings may throw some light on it. As with other tests, it can only concern men, for women, though they may watch the drawings being made, do not learn to do them. In Maewo, the planting, when alive, of a pandanus tree is necessary for a safe passage (**4**, p. 280).

know of primitive beliefs concerning the body and the soul. Those who were loved, or whose aid, given in life, is needed by the community after their death, are treated in such a way that they may remain near the survivors: those who have no strong bonds, emotional or social, uniting them to the living, are disposed of with the minimum amount of trouble. Thus, in Melanesia, such evidence as we have points, as does that of the Andaman Islands, to an intimate association between variations in mortuary practice and variations in "social value."

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NOTES ON THE DALLEBURRA TRIBE OF NORTHERN QUEENSLAND.

[With Plates XXII and XXIII.]

By M. M. Bennett.

To the "Christison Collection" of Dalleburra weapons in the British Museum has now been added a series of fine photographs of the makers of these weapons. These photographs, which were taken by Mrs. Christison, have an unique and tragic interest, for the Dalleburra tribe is practically extinct.

This article is compiled from jottings[1] found among the papers of Robert Christison, who evidently intended to write a study of the Dalleburra tribe. His Dalleburra dictionary appears in E. M. Curr's work, *The Australian Race*,[2] and some of his observations are incorporated in A. W. Howitt's *Native Tribes of South-East Australia*. A brief account of the Dalleburra, from information supplied by Christison, was also submitted to the Anthropological Institute in 1877 by Beddoe.[3] Christison was not only interested in the tribe from a scientific point of view, but he had a very lively sympathy for them and never spoke or wrote of them except as the "Faithful Dalleburra," a designation which Howitt paid him the compliment of adopting. The Dalleburra earned the title. Data about the tribe are bound up with the story of their first acquaintance with the pioneer settler, who established himself in their country in the early 'sixties of last century.

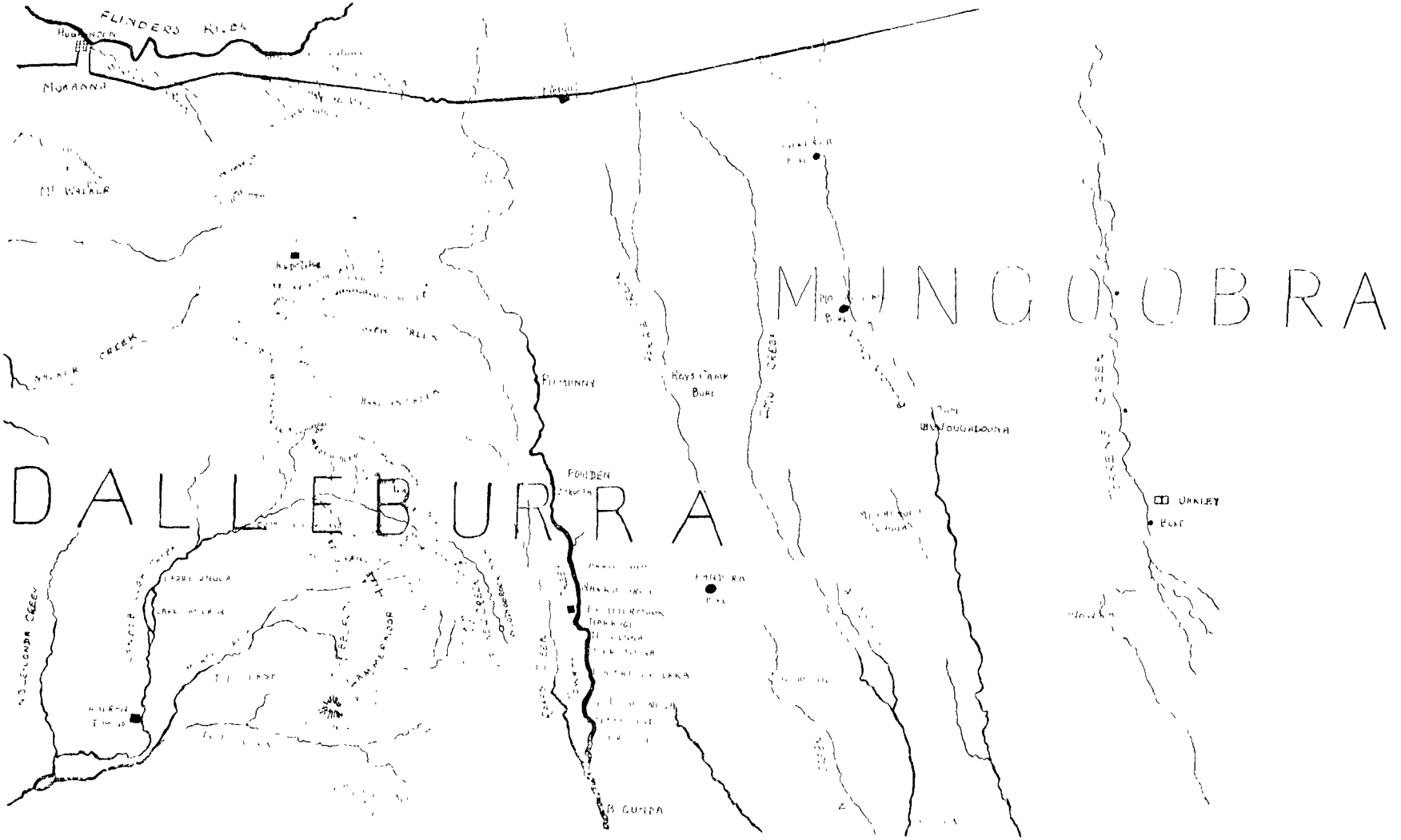
Robert Christison landed in 1863 at Bowen, then the furthest northern settlement in Queensland, and struck out west along the twenty-first parallel of south latitude, taking with him horses and three months' provisions, and accompanied by one black boy called Gailbury. After about a week's travel, that is, about 200 miles, he struck high country—1,800 feet above sea-level—the Main Dividing Range, which separates the eastern from the western waterflow, and the table-land which parts the rivers which flow north into the Gulf of Carpentaria from those which flow south into Lake Eyre in South Australia. The Dalleburra country covered this table-land and the downs to the west of it, and was drained by the heads of the Thomson which flows south into the Barcoo and Lake Eyre (*see* Map, p. 400). The principal creek is the fine chain of water-holes known as Towerhill Creek,[4] but there were many creeks which held

[1] These date from 1863 till about 1886.

[2] *See* Appendix B, p. 415.

[3] *Journ. Anthrop. Inst.*, vol. vii, p. 145. (*See* Appendix to this paper, p. 413.)

[4] The Dalleburra had a name for every water-hole, or reach, of Towerhill Creek. They called them, beginning with the first big water-hole and going south: Pilmunny, Beroota, Marrkanna, Narrkooroo, Narkool, Newjenna, Turrummina, Mattamundukka, Teekalamungga, Teekaloonda, Kooroorinya (the Falls), Bogunda.



MAP OF THE LAMMERMOOR TABLE-LAND AND SURROUNDING COUNTRY, WOWRA, QUEENSLAND. (SITE OF LAMMERMOOR = 21° 17′ S. LAT., 141° 36′ E. LONG.)
SCALE 8 MILES TO 1 INCH.

water only after rain from Torrens Creek on the desert to Landsborough Creek on the downs. Over the black-soil plains, interspersed with sand-ridges and belts of acacias and gum-trees, roamed the Dalleburra, numbering about 500, following game and the seasons.

The eastern desert country of the Main Dividing Range was occupied by an allied tribe, the Munggoobra. To the north, on the head of the Flinders River, which took its origin in basalt gorges, lived the Quippenburra. On the south was downs country inhabited by the enemy Mootaburra tribe. This country lies round the present township of Muttaburra, mispronounced thus by the white people.

To the west the Dalleburra roamed as far as the present township of Winton, where once lived the Goämulgo tribe. The Dalleburra used to take quartz flakes and greenstone ground into tomahawk heads to the Goämulgo, and obtain in exchange the narcotic *pituri* shrub which grows in the farther west. Other products of their respective localities must have been bartered also. At the season of the year when *pituri* should be gathered, the far western tribes used to organize expeditions to gather it, for it grew in arid country, several days' journey beyond water, necessitating relays of water-carriers to form depots for watering along the route into the dry country. Howitt describes one of the old trade centres, "Kopperamana on the Cooper, where the surrounding tribes met periodically to confer and barter their respective manufactures. It may be noted here that the name Kopperamana is a mutilation of the true name *Kappara-mara*, from *kappara*, meaning 'hand,' and *mara*, meaning 'root.' But *mara* also means 'hair' of the head, which is connected with the head as the fingers are with the hand. The meaning of the name really is, that as the fingers all come together in the 'root' of the hand, so do the native tribes come together at Kappara-mara, to confer together, and especially to exchange their respective articles of barter." One is reminded of Sturt's discovery of the Cooper, and his differing interpretation: how the natives "explained that the creek commenced on the plains, by spreading out their fingers as the old man had done, to show that many small channels made one large one . . ." Howitt goes on to say of the gatherings at Kopperamana: "The Dieri exchange string tassels, netted bags, red ochre, etc. Tribes from the east bring boomerangs, shields, and other articles made of wood. Those who come from the north bring pitcheri and feathers. Those who come from the south and west bring stone slabs. These particulars illustrate the nature of the inter-tribal trade, and the radius within which it was carried on, taking Kopperamana as the centre. It may certainly be held that reciprocal trade centres existed in the tribal countries, from which those who attended the meetings at Kopperamana came."[1]

[1] A. W. Howitt. *The Native Tribes of South-East Australia*, p. 716. Howitt was the finder of the survivor of the Burke and Wills Expedition, and of the bodies of the unfortunate explorers.

Christison was the first white man in the Dalleburra country, if we except Landsborough,[1] who passed through in the end of March, 1862, on his way from the Gulf of Carpentaria, searching for Burke and Wills; and Walker, who skirted it when travelling from the Nogoa to Carpentaria, also looking for Burke and Wills. Neither Walker nor Landsborough mentions seeing any of the tribe in his rapid passage. When Christison came, the Dalleburra had probably never seen a white man or a horse before; they imagined man and horse were one animal,[2] fled in panic, and remained concealed. Christison soon found that it would be difficult to get into communication with them; but communicate with them he must, for here was he, a single white man with one black retainer in strange country with a tribe of some hundreds. He believed that to be just, firm, and aloof was all that was necessary for safety, provided he could make them understand that he would leave them alone, and they must leave him alone and his sheep.

One day, with Gailbury, overtaking some blacks, he chose a fine-looking young fellow and rode after him, heading him back from the scrub that he was making for to the open plain. In desperation the black fellow ran up a tree. Christison dismounted and signed to him to come down, else he would cut down the tree. Thereupon the black fellow sprang to the ground and threw his arms round the horse's neck, supplicating the terrified animal that snorted and backed, broke the reins, and galloped off. Christison had a difficult task to hold the black fellow, for he was very strong, with muscle like whipcord, slippery with emu oil, and wriggled like an eel. However, he secured the black fellow and brought him home and chained him to a verandah post. He fed him, gave him a blanket, taught him to smoke, and succeeded in convincing him of his friendly intentions, while he picked up what he could of the black fellow's language and learnt the name of the tribe—Dalleburra—and of the black fellow—Ko-bro (Pl. XXII, Fig. 1). Christison called him "Barney," and the black fellow made a name for Christison—"Munggra": henceforth Christison was Munggra to the tribe. (Is "Munggra" formed from the Dalleburra word "*mung-er*," meaning "to hear, to understand, to know"?) Christison used to declare that Barney picked up English much quicker than he picked up Dalleburra.[3]

[1] Landsborough, who followed Towerhill Creek, which he named, came in a good season, when the blacks had gone after game to the outback lagoons on plains that usually were without water.

[2] An interesting parallel to the belief of the ancient Mexicans when they first saw the Conquistadores on horseback. So too, like the Mexicans, they mistook the report and flash of a musket for thunder and lightning.

[3] It is regrettable that colonists usually talked mutilated English, which they called "pidgin," to the aborigines, with the consequences that white people got into the habit of treating the aborigines as people of inferior intelligence, and that the aborigines had not a chance of expressing themselves with that precision and clarity which are native to them; so our knowledge of them is scanty and inaccurate. Rusden says, in his *History of Australia*: "Though the Australian (aboriginal) had an aptitude for language, by a singular infelicity it seems to have been thought

Barney was about 5 feet 9 inches in height, straight as a lance, and very active. His features were slightly aquiline, the eyes alive and piercing, the nostrils sensitive: the head was nobly shaped, the hair fine, silky, jet-black, and curling. Though the aborigines are spoken of as "blacks" their colour is a glowing copper. Christison's desire to deal justly with the tribe was rewarded a hundredfold in his capture of Barney; providentially, out of a large tribe of blacks, he had happened on a man whose simple goodness and nobility would distinguish him anywhere. Barney took Christison's message to the tribe, that the white fellow would be friends with them: Munggra and his people would not harm the Dalleburra, but the Dalleburra must not interfere with them; when the Dalleburra wanted to talk to Munggra they were to come without weapons and carrying branches to show they came in peace.

The whole tribe came. Christison related the incident for A. W. Howitt, but Howitt did not use the note, as it had no direct bearing on the subjects he was investigating. Christison's note runs: "I think it was in 1861 a mob of blacks came into camp, who had not seen the white man, and my permission was first asked if they might pay me a visit. There were about ten stalwart men among them about my stature (5 feet 10½ inches), but there was one old grey-haired man fully 6 feet high, and he had a most commanding figure. I thought, here is a chance to crown a man who will be of some service to me. He had the appearance of a ko-bee-berry (head-man), so I punched a hole in a tin plate, put a piece of red tape through it, and tied it round his neck, proclaiming him 'King Narkool' of the Dalleburra tribe—Narkool was the native name of the water-hole at our camp. I then produced a looking-glass with the back towards him. I told him to sit down, and he squatted on his haunches. I turned the glass. When he saw his reflected image he gave a yell, bounded on to his feet and ran like an emu, plunged into the river, swam across, and disappeared into the scrub. I did not see His Majesty

easier to teach corrupted English than that of ordinary speech, and the colonists wantonly maimed their own language by addressing the natives in a barbarous jargon of mispronounced English words. The consequences were natural but misleading. Travellers' notes were often worthless. Their hosts could not converse with the natives except in a limited inexpressive vocabulary, and the defect was imputed to the natives, of whose language neither the traveller nor his host the colonist knew a word. The Reverend Mr. Ridley, who spoke an aboriginal language well, wrote: 'The inflections of verbs and nouns, the derivation and composition of words, the arrangement of sentences, and the method of imparting emphasis, indicate an accuracy of thought and a force of expression surpassing all that is commonly supposed to be obtainable by a savage race. It need hardly be said that a very common statement that the Australians had no abstract terms—no adjectives such as hard, soft, cruel, kind, cold, warm, severe, gentle, etc.—has no foundation . . .'" Here it may be pointed out that mistranslations were very common. Thus, a settler pointed interrogatively to the river on which Melbourne now stands; the black fellow, wondering what he meant, hazarded—"Yarra, yarra," which meant "It is running, it is running"; and the settler duly wrote, "name of river, Yarra-Yarra." Similarly, in Queensland, a settler was warned away with the words "Bail yando," meaning 'Not go there"; the settler noted, "name of river, Belyando."

again for six months, when he came back and was anxious to see the glass again, which I gave to him. It was most amusing to see the grimaces he made. He commenced to scratch the mercury off the back to find how his likeness was produced. Before he turned up the second time I learnt the cause of his hasty departure. The other blacks told me that he was very like his brother who was killed many years ago in a fight with the Mootaburra tribe, and he thought when he saw his own image reflected in the glass that I had brought his brother back to life."

Barney wanted to camp near Christison. Christison agreed, saying: "You and me two fellow messmates. Country belonging to you: sheep belonging to me." Barney told me the story thirty years later. He regarded the declaration as a charter. Christison's natural clannishness was probably the main factor in the good understanding which he so fortunately established.

So Barney formed his camp about a hundred yards from the pioneer hut, above a gully running into Narkool water-hole, and came to live there with his wife and children. Later Christison built Barney a hut. Barney attached himself to the white man with dog-like devotion. He fell into the routine of bringing in the horses, lighting the fire, boiling the billy, and cooking the mutton and johnny-cake. When the horses or the sheep strayed, Barney would run their tracks and recover them. He could tell Christison any horse in a mob of twenty by the print of his hoof. His bush-craft was invaluable. In dry country he could tell from the species of birds whether water was near, far, a day's journey, two days' journey, or beyond reach: he would look for a hollow tree that was a cistern of rain-water; he would uncover the roots of a mallee tree, break them into lengths, and stand them, small end downwards, in a wooden bowl to drain. He knew the wells that the blacks had made and kept in repair from time immemorial. On an expedition into the farther west, Christison and Barney, and another black boy who went with him, nearly lost their lives, first by drought, then by flood. When the flour was nearly finished, Barney and the other black boy would not touch their share, saying that Christison stood more in need of white man's food than they did.

Christison had unrivalled opportunities for appraising the aborigines in their wild state, while they were uncontaminated by familiarity with mean whites. He wrote of them: "There was no syphilis among them in any form before the white men came. To syphilis and to drink are to be attributed the speedy extinction of the race. In their wild state they seemed to live peaceably enough. I have seen a camp of 300 live for three months without a quarrel—in strange contrast to the formation of a township, where, before the European population reaches 50, it is necessary for the Government to send out a sergeant of police and a constable to keep order. In my first experience of the Dalleburra tribe I saw a woman, apparently 60 years old, being carried about in a litter by the tribe in turns: she had been a complete cripple from her birth, so she had been cared for all these years, and to my knowledge was cared for to the day of her death. I have also seen several blacks

rush into a swollen stream to rescue from drowning a fragile useless old woman whose death would have been a relief to herself.[1] I have seen a mother watch for days beside her sick child, without food or sleep, and, when the child died, refuse, like Rachel, to be comforted. They will share their food with those who have been less successful in the chase." They had a great love of country. The following account was given me by Mr. Gardiner who lived long on Flinders Island, where a number of Tasmanian aboriginals were placed, some considerable distance from their birthplace. "Old men and women and children were seen in the early morning to ascend Mount Arthur, and perch themselves upon the top and wait until the sun lifted the mists from the peaceful ocean, and when the blue mountains of their native land became visible they would raise their swarthy attenuated arms, and, with tears rolling down their cheeks, exclaim, 'Country belonging to me!' (My country!)"

An accident gave Christison enormous power. A little boy broke his thigh-bone in falling from a tree which he had climbed to get at the store of some native bees. The tribe began bewailing his death, which seemed inevitable, and dug a grave for him. Christison took charge of him, set the bone, and in two months gave him back to them, fit and well. They attributed the cure to magic: one old gin wanted to claim Christison as a defunct brother who had "jumped up white man": and a man asked, if he cut off his wife's head could Manggra put it on again? They brought all sick to him to cure. He was much puzzled by the behaviour of the little boy's mother when she first saw him in his convalescence. She began howling and gashing herself with a flake of quartz. He wrote of this custom: "The infliction of wounds has never been explained, and I confess I feel diffident in arriving at any conclusion, it is so singular. Wounds are inflicted in this way. Should a woman hear of the death of any of her kindred, she seems overwhelmed with grief. She takes a quartz knife and commences to scarify her thighs until the blood flows freely: the pain of this must be intense. It is possible that this pain of the body gives relief to the mind. But here a difficulty arises, for wounds are inflicted in extreme joy on the meeting of some long-absent friend. It may be that the feelings of great joy are so transient that they anticipate the inevitable sequence. Also, why is this custom practised only by the women? To some people, versed in comparative anthropology, it may appear to savour of sacrifice, handed down traditionally from earlier ages, and there is a similitude in the earliest record of self-inflicted wounds, 1 Kings ch. xviii. v. 28, where the prophets of Baal cut themselves with knives and lancets."

Christison could not discover that the Dalleburra believed in one Supreme Being, though they believed in supernatural beings, "yarraby," which they said inhabited water-holes and mountains. They told of a yarraby at Kooroorinya who

[1] *Cf.* A. W. Howitt *op. cit.*, p. 766.

came out from the caves under the Falls, and might be seen splashing about in the moonlight. The yarraby which they feared most was Koonkoolmujja, who ranged over the precipitous rocks, "Korribberum," above the downs: they said he ran on all fours and sometimes reared up, shading his eyes with his hands and peering, always looking for someone. When he finds a stranger he entertains him hospitably, but whoever looks into Koonkoolmujja's eyes goes mad.

Christison wrote: "The tribal government was in the hands of the ko-bee-berry (head-men), and their election seemed uncertain. I am inclined to think that the greater minds assumed direction. Offences against tribal laws were: marrying within prohibited degrees, abduction, and encroaching upon others' hunting-grounds. Message-sticks were frequently used to send news, to call and appoint places and time, for assembling.[1] The principal means of communication was by the use of smoke; it was wonderful how they could telegraph to each other in the old days. The ko-bee-berry pretended to be able to call down rain and to cure diseases, but contact with white men taught the blacks to treat them as humbugs. They used to pretend that they were free from all harm except death. I have seen them crunch up hot coals from the gidya fires to show their immunity from the effects of fire. Children held them in dread; they were told wonderful tales of the ko-bee-berry, very similar to our own nursery tales. The regulations for the distribution of food were various, but were determined by the ko-bee-berry who generally so managed that they got all the dainty food for themselves. I know some blacks who have never tasted 'goalberry' (emu)." It is possible that if there had been no restrictions the rarer species would have been destroyed.

There was a regular marriage system for which the tribe was divided into four sections: Ko-bro, Woonggo, Bunberry, and Koorookilla. A Ko-bro could marry a Woonggo, a Bunberry could marry a Koorookilla (if not related). The children belonged to different sections from their parents. Members of the same section were looked upon as brothers and sisters, if of the same generation; but if of a previous generation, then as standing in the relation of parents. When a little black baby, whose mother had died, was left at Lammermoor to be looked after, he was promptly taken charge of by Mary, a woman of the same section as the baby belonged to, namely, Ko-bro. The blacks always knew at once to which section each member of the tribe belonged. "All these complicated and cumulative restrictions were certainly made intentionally to meet a tribal sense of morality."[2]

Barney belonged to the section Ko-bro, and, as the head of his section, was addressed by this name. He had a hole bored through the septum of the nose, and the first joint of one forefinger cut off: this was done to all members of the Ko-bro section, men and women. I do not know of distinguishing marks for the other sections. Barney's son Kyra belonged to the section Koorookilla (Pl. XXII, Figs. 3 and 4).

[1] *Cf.* A. W. Howitt, *op. cit.*, p. 709.
[2] *Ibid.*, p. 283.

A black man, Mickey, belonged to the section Woonggo (Pl. XXII. Fig. 2): his wife, Mary, belonged to the section Ko-bro (Pl. XXIII. Fig. 2). Mary's father, a stalwart old fellow named Warmboomooloo, numbered among his wives Wyma who belonged to the section Bunberry (Pl. XXIII. Fig. 1), so I suppose Warmboomooloo to have been a Koorookilla.

The curious consequences of a lapse from morality which occurred in the Dalleburra tribe in the early 'seventies are worth recording. The ancient custom of the Dalleburra demanded that the offence—incest—should be purged by putting parents and infant to death.[1] The tribe deliberated, killed the parents, but left the child, knowing that it could not live without tending. Christison, who was ignorant at the time of these happenings, chanced, when he was riding after cattle, to see what proved to be a dead woman and a living baby. He brought the baby home, and on learning its history decided to place it in the care of the cook, a white man, and to supervise the rearing of it himself. Some interesting facts emerge: first, the horror with which the blacks regarded such crimes, and then their strong repugnance to dealing harshly with children which caused them to evade carrying out their law in full. It was not distrust of the blacks, but respect for their point of view, which induced my father to keep Warmbunny, as the blacks called the boy, under his own observation. His principle with the blacks was, in his own words, "not to condemn any of their customs at first, but to show them by example a better way than their own." Warmbunny grew up a harmless, rather stupid, and giddy creature . . . Some thirty years later I was trying to unravel the plan on which the Dalleburra tribe was divided into sections, and asked my old black nurse Wyma, by way of illustration, what was Warmbunny's section and what were his parents' sections. Wyma parried my questions and led the conversation away, but I insisted on returning to the subject and at last cornered her. Then the whole story came out, for naturally the blacks are perfectly truthful, and though it had happened so long ago, Wyma was in an agony of shame that such a crime should have been committed in her tribe and could not bear to speak of it.

The Dalleburra were betrothed in infancy. If a man tried to take away the betrothed of the wife of another he had to duel for her. The weapon was the bibboo, a knife or dagger made of a bit of quartz fixed in a mortised hilt of ironbark wood, "dooloo moorrinya," with gum of the beef-wood tree, "tangga pandy" and bees'-wax, "kawora," and bound round with kangaroo fur and sinew. With a knife in each hand, and one between his teeth ready to replace a broken knife, the men fought, their arms going like pistons, plunging the quartz into the adversary's flesh and ripping it up. The fighters were allowed to gash each other on the fleshy parts

[1] Christison's notes contain brief references to ratankoh and cannibalism. The former, he wrote, "I do not think was much practised, but when it was the motive was to avoid the trouble which they thought a child would give. Cannibalism was practised sometimes. I have never witnessed it, but I can thoroughly rely on the blacks who tell me. They assign no reason."

of the arms, shoulders, and thighs, but to attack a vital part was forbidden. The tribe looked on to see fair play, and the man who stood punishment longest had the women. They rubbed ground charcoal into their wounds to raise scars that attested their endurance, the finest decorations, to their thinking, that they could wear. They were so healthy that they recovered quickly from the most frightful gashings. They used to rub themselves with emu oil to keep themselves supple, and smear themselves with ground charcoal as a protection against the fierce heat of the sun, charcoal being a non-conductor, and this made them look darker than they really were. Some knives were made of flints, called "paypo," and soon the blacks were picking up discarded shear-blades and making them into knives—"the transition from the Stone Age to the Age of Iron," Christison used to observe.

When the youths were growing up they were put through various trials, and instructed in the traditions of the tribe and their duty to it, before they could qualify for the status of grown-up men of the tribe, "kowla," and marry. The ceremony of making "kowla" was observed with great secrecy and was the most important which they had. It was death to speak of it before women or other uninitiated people. Christison often tried to get the ko-bee-berry to describe it, but without success: they only gave inconsequent replies. The ceremonies of the Yuin tribe, which Howitt witnessed, were typical. The boys were exhorted to put away childish things: they must not be self-indulgent: they must never act like buffoons; they must not show fear or surprise at anything: but they must quit them like men: and, above all, they must never reveal anything they have seen and heard at the initiation ceremonies on pain of death. Some tribes made scars;[1] others, like the Yuin, knocked out a front tooth. Howitt, describing the knocking out of the tooth, says:[2] "The stoical indifference shown by this boy to what must have been an exquisitely painful operation was most surprising. I watched him carefully: he could not have shown less feeling had he been a block of wood. But as he was led away, I noticed that the muscles of his legs quivered in an extraordinary manner."

The most ingenious implements of the blacks were the boomerang and the throwing-stick. Christison often saw a black throw away one boomerang after another that he had fashioned in the rough if he was not satisfied with the curve. When he had developed the proper curve he would take great pains to perfect it. Holding the boomerang in the middle by his teeth and grasping the ends with his hands while he gave it the right screw. He would warp it in hot ashes. Again and again, between chipping and twisting, he would test its flight or, holding it level with

[1] Dr. Ramsay Smith observes of their scarrings: "It is remarkable that scarrings, in men, occur in such positions of the body as would brace up the joints and prevent the looseness of tissues that is so apt to occur in well-fed individuals, but that is so detrimental to their fighting powers. In this respect the aborigines remind one of the Scythians and Nomades mentioned by Hippocrates, who produced similar scarring with a very definite object in view."

A. W. Howitt, *op. cit.*, p. 542 (*cf. also* pp. 586, 594, 637 *ff.*).

his eye, try it as a carpenter tries a plane. When he had perfected the boomerang it would travel from his hand, revolving rapidly like a propeller blade, describe an ellipse, and return to his feet. Sometimes he would have to skip to one side to avoid being struck. This was the lighter boomerang which the Dalleburra called "koolka"[1]: the heavy one did not return if it missed. Christison saw Barney throw a boomerang into a flight of flock pigeons and bring down thirty or forty birds; the impact of the boomerang killed only a few, but as the pigeons in terror dashed against each other many were stunned or broke their wings.

The throwing-stick, or "wommera,"[2] called by the Dalleburra "koolbinny," doubled the leverage of the arm and increased the impetus of propulsion. It was a flat stick about 30 inches long and 2 inches wide, with a peg gummed and tied to one end at an acute angle: the other end usually had a lump of gum with two shells enclosing it and forming a knob which prevented the stick from flying out of the hand when the spear was thrown. Christison often watched a black stalk his game, emu or kangaroo, under cover of a bough carried in one hand, while in the other hand he poised his koolbinny with the spear shipped in it ready for slinging. The game saw the bough; sometimes it looked up suspiciously; the native would stand motionless until it began to feed again. Nearer and nearer he would creep. If Christison took his eyes off him he was unable to find him again among the bushes on the plain, so cunningly would the native place himself. Suddenly he would drop the bough, and before the prey could run it was transfixed by the spear. The Dalleburra spear for using with the throwing-stick terminated in a hollow reed which gave it lightness: it was called "kulta." For taking fish they used another spear, with prongs of bone fastened to the shaft below the point: and, for fighting, a heavy spear, "moorrcha," made from a mulga tree, chiselled with a flint or a flake of quartz. The point was hardened in the fire.

Their clubs were the plain "nulla" and the spiked "timmy-timmy," made from the hard and heavy gidya, terminating in a sharp point above the head, and roughened at the grasping-end like the stock of a gun. Gidya, close-grained, scented, and nearly black, has a rind of pale yellow wood just below the bark. In shaping a timmy-timmy, a black fellow chipped away the pale rind, except round the head of the weapon, where he carved the blunt spikes in relief, pale on the dark ground. Sometimes the weapon was forked. They used to rub emu oil on their weapons, which took on a beautiful polish because of the closeness of the grain. Weapons made of gidya were generally decorated with incised lines in diamond and other patterns, but shields made of the soft cork-wood for catching spears on were painted with pipeclay, red sandstone, and ground charcoal.

[1] Or "yaroo-andy," meaning "go-there and come-back."

[2] "Wommera" was the name of the long-extinct Sydney tribe for the throwing-stick. Many words of the Sydney tribe came into use first, and are still generally used, as "gin" for black woman and "waddy" for stick.

The implement of the women was the yam-stick, a long flat stick for digging up yams, "kalgooly," the turnip-like roots of a vine that is generally found growing up a sandal-wood tree on the edge of a sand-ridge. The yam cannot be cooked, but it is an invaluable thirst-quencher. "It was the most important medicine the blacks had for fever and ague, when they mashed it into a pulp and mixed it with the gum of the white-wood tree 'tangga woombooroo.'" The women used the yam-stick as a weapon also, like a quarter-staff, and they were very expert. They were very clever in making nets, netted bags to carry their possessions, and netted head-bands for ornaments: these last were generally plastered with white chalk, when they were called "chairrbo": or they were stained red with a paste made of powdered red sandstone, the gum of the blood-wood tree, "tangga kamboona," and red clay, when they were called "murry-murry," and there was usually a shell dangling from the centre. White shell-pendants were called "tigurry." String for nets they made by rolling on their shin-bones the fibres of the native flax, "moa," or the fibres from the inside of the bark of the kurrajong tree: the kurrajong string was called "uanna-peeanna." Nets were used for fishing and also for catching ground game, and men and women and children would beat the game down-wind towards the net stretched near a water-hole, where an ambush would be waiting to kill the animals when they became entangled.

The women also made grass necklaces of bugles of the freshwater reed, "poorr-booroo," incised the bugles with lines, and strung them on a kangaroo tendon. Two kinds of awls were used for sewing skins, "marrkoorra," together: (1) "pickooroonger," a kangaroo bone ground to a point at one end: and (2) "noorin-yooroo," a bird's bone similarly ground to a point. The latter was also used for piercing the septum of the nose. Besides making and repairing nets, sewing skins together, and finding roots and small game, the women used to grind the seed of the barley-grass, "boa-grakulla," on hollowed stones, which came to be called by the same name as the seed which was ground on them.

Another article in use was the tomahawk, "koocha," made by fastening a stone head with gum of the beef-wood tree, "tangga pandy," into a loop of willow-wood, which was bound tightly round just below the axe-head with kangaroo tendon.

Fire could be produced in two minutes by friction. The stick for making fire was called "nummy-pooree," and was of native laurel, "tee-oojer," split at one end; the split was held open by an inserted peg and loosely filled with dry grass and bark. A hard-wood splinter was rubbed across the split until the friction produced a spark which ignited the grass and bark.

The blacks had a clever way of finding honey. One would catch a little stingless native bee, and affix a bit of down from the under-wing of a wild duck to the bee's body with wax, then release the bee. The bee could not fly fast, being hampered with the fluff, and it would go straight back to the hive to get one of its fellows to rid it of the fluff. The black would follow the bee, never taking his eyes from it, though he

stumbled over fallen timber, ant-hills, or polygonum bushes, until he saw it enter its hive, generally in a hollow high up in a gidya tree. Another article of diet consisted in the spongy, succulent stalks of the lotus, "wondoobra," sometimes eaten raw, but more often roasted, when they were considered a great delicacy.

They had the most thorough knowledge of which snakes were venomous. "When two blacks were hunting in sight of one another, if one found a non-poisonous snake, like a carpet snake, he promptly killed it: but if he saw a poisonous snake he would make signs for his companion to come and help him. A black always smashed the head of a snake, whether it was venomous or non-venomous, before placing it round his neck, the most convenient way of carrying it." Christison noticed that many blacks had a scar ringing the leg a little way below the knee, the certain mark of having been bitten by a venomous snake. "At a lambing station a woman was bitten by a poisonous brown snake and called out to her husband, who, seeing the snake at once tied a cord above her knee and twisted it up very tightly with a stick; then he took a quartz pebble, cracked it in two, and with the sharp edge cut a circle round the calf, skin deep. The blood oozed out and, though the woman was drowsy and ill, she recovered. When the poison had drained away he plastered the cut with a healing black earth called 'pooloojoo,' found at the creek." Christison asked the man, if he were bitten by a venomous snake on the wrist, would he cut the arm in the same way? The man shook his head. "Bail me stupid fellow," he replied, "too much blood run away."[1] He had lost a brother from the bite of a brown snake when they were hunting together on the open downs: no pebble could be found to use as a lancet, so he ran to a ridge two and a-half miles away to get a flint, but by the time he returned his brother was dead. Since then he had always carried a bit of quartz in his dilly-bag.

Living so near to nature, and being utterly dependent on their bush-craft, caused them to acquire a deep and accurate knowledge of natural phenomena: they always knew when drought was coming, and when rain. If thunderstorms were about they would resolve to burn a patch of old rank grass, and they would post themselves round to spear birds and all creatures as they escaped from the flames: they would invite neighbours to the hunting and korobbery ("mambo," the Dalleburra called it), when there would be dancing and mimicking of incidents that had appealed to their imagination. When the thunderstorms came the fresh pasture would spring up, fertilized by the ashes of the old stuff. When floods were coming the blacks withdrew to higher ground.

It was natural for them to turn from their life of hunting to shepherding and stock-work. A great number of settlers have testified to their usefulness and competence, and I can state from personal knowledge that no one could be better at horse and cattle work than the Lammermoor black boys. They will make any

[1] Quoted by A. W. Howitt, *op. cit.*, pp. 385, 386.

efforts for people whom they are fond of, and they will take a great pride in performing their work well, but if they are bullied they lose heart.

Christison described their proficiency in tracking: "They possess in a remarkable degree, acuteness of sight with reasoning power far in advance of any other people. I must tell you how sheep and cattle roam in thousands over large tracts of country where fences are unknown, consequently many often stray: for instance, I ride round outside where there should be no cattle and see tracks of, say, fifty making off. A black will carefully examine the impressions left, and will follow them up for some miles, so let us forestall the discovery by saying they had gone ten days; but how does he discover this? He will run along the tracks, watching for some time, until he can discover some proof, such as the bruised grass, or broken twigs from a neighbouring bush, or if a few blades of grass have been uprooted, he will pick them up, examine them, think of the power of the sun, rain, or dews upon them, and by the appearance of them judge, and looking up will say, 'I think, mas'r, cattle go away about ten days ago,' or so. This being determined upon, with all assurance he runs along the trail, knowing the quicker he goes the sooner he will overtake them. I have often thought of the bloodhound—the stronger the scent, the quicker the pace; so the fresher the tracks, the greater eagerness the native shows in following them, all indications becoming more marked until he comes to the utmost certainty by finding their camp, or where they had lain the night before. He will then say, 'Mas'r, to-morrow, when the sun is so high, I catch 'em cattle.' With this keen perception they possess also great patience without which they could not succeed. You must not suppose that these tracks run in a straight course; they are often most erratic, making circles, retracing their steps, and so on. I have seldom known a white man become a good tracker; he does fairly well when the trail is straight ahead, but it requires a black to overcome this most intricate and tedious task of early pastoral life. So wonderful is their power of tracking, that if I had one of them here, and took two rabbits into a large grass field, clipping the claws of one to make a distinction, and giving them an hour's start, the tracker would follow the one I indicated to his hole and dig him out."[1]

The account[2] should be read of the search for a little white boy who was lost for seven days in the terrible Sandstone Desert of the Main Dividing Range beyond Pentland. One of the black boys who tracked him had already found several white people lost in the bush. Though the child had a start of two days, and the track led over the wildest and hardest rocky country, the blacks followed it without losing it, and without one long stop for nearly a hundred miles. Not a minute was wasted; they ate only after dark. When the track was plain, they rode at speed; when it became faint, they slung their horses adrift to be minded by a white man, their attendant now, riding when they rode, walking when they walked, standing at the

[1] An address given in London in 1880 in support of an appeal by Bishop Stanton.

[2] *The Northern Miner*, July 31st, 1894, published at Charters Towers.

last print when the track disappeared to mark "the point of commencement." At one time "the blacks walked straight across a rock-bound plateau to the edge of a precipice, and without a moment's hesitation swung round and followed for two hundred yards an invisible trail along the glassy surface of a steep declivity . . . The whites feared that the track had been lost, when one of the black boys yelled, and, breaking off a branch, stuck it where the print of the boy's foot was clearly outlined. Progress was slow in that rocky country, and if the boy stuck to the gorges they would find only his remains: reluctantly, when darkness fell, they drew a mark across the tracks. Where Crooked Creek leaves the gorges, the precipitous banks die away and the watercourse is lost in a swamp: here the child's course was distinguishable. "That fellow strong, no fall about," cried the black boys in delight. A box-tree flat, which had been submerged and had dried as hard as a board, baffled them till one, lying with his face to the ground, found a faint indentation like the mark of a nail. No sooner were they over the flat than they came to conglomerate and bouldery country, where they walked hand in hand at a smart pace, reading the boy's course from the disturbed stones. When they struck Amelia Creek they cried out trembling with excitement, "Close up now," and dashed off at a gallop, but the white men checked them for fear the lad should be alarmed. So, after tracking him unremittingly for five days, they came in sight of the little fellow trudging along, his saddle on his shoulders, the bridle hanging round his neck, the saddle-cloths rolled round his waist. He was only weary, neither glad nor interested that he was found. Not so the black boys, who burst into tears in their joy and relief.

Appendix A.

Beddoe's address ("On the Aborigines of Central Queensland") to the Anthropological Institute, on May 8th 1877,[1] contains some misapprehensions:—

(1) "That they are rapidly dropping the use of their own language as they acquire the English . . . a very remarkable fact." What I have often heard my father say was that they had an extraordinary aptitude for learning languages—quite a different thing. He used to say that they picked up English much quicker than he could pick up Dalleburra, and he would add that it was wonderful how they could "rattle it off." Never have I heard aboriginals maintain an extended conversation with each other in any language but their own. Frequently have I asked one of them a question (it may have been about tribal usage or modes of hunting), and that one has referred a point to another, and they have discussed the matter freely before me in Dalleburra, and then have helped each other to translate their conclusions into English for my benefit. The children likewise spoke their own fluent

[1] *Journ. Anthrop. Inst.*, vol. vii (1878), p. 145.

and expressive Dalleburra in preference to the inexpressive pidgin English which the whites spoke to them (unfortunately).

(2) Beddoe's statement that "Instances have happened in which a father or mother has sold a boy to a travelling squatter . . . but inasmuch as the property supposed to be inalienated invariably re-transfers himself . . . such transactions are evidence of what Uncle Sam would call smart dealing." gives undue importance to a newspaper "yarn" which my father probably repeated in a moment of gaiety. No evidence for the statement is adduced, and I do not know of any. While I was living on the station (between 1893 and 1898), vagrant blacks left a small boy, "Jacob," and a baby, "Tommy," whose mothers had died, at the station to be minded by the station blacks. The vagrants were given rations just as sundowners (white vagrants) were given rations, but there was no sale. The vagrants left the children of their own volition and frequently came back to see how they were. An interesting fact is that both children were minded by one couple, instead of being looked after by the whole camp of blacks. According to Dalleburra law, Mickey, being a Woonggo, was responsible for the bringing up of waifs belonging to his section, to which Jacob belonged; and his wife, Mary, who was a Ko-bro, was responsible for little Tommy who belonged to her section. The other blacks, belonging to the Bunberry and Koorookilla sections, would have looked after the children if there had been none of the children's sections to look after them, but in presence of a senior Woonggo and a senior Ko-bro would not have dreamt of trespassing on their rights and duties. This loyalty shows what a strong sense of responsibility was developed in them by their tribal traditions: for these station blacks had been settled in habitations built by the white man, and had been doing his work for thirty years. Though I have never known blacks to sell their children, black children and women were frequently stolen by whites: evidence is given below.[1]

(3) Beddoe's assertion that blacks are less able to bear thirst than whites is curious. I have never heard my father say so: on the contrary, I have often heard him praise them not only for their resource and pertinacity, but also for their endurance. Unwillingness to demolish his brother-in-law's address may have kept him silent,

[1] William Armit (Inspector of Police) asked that "officers should be invested with the power necessary to prevent the Public from taking gins and children from the Tribes at will and unchecked." (*Queenslander*, September 4th, 1880, p. 306.)

"A wild black woman told Mr. Tenison Woods . . . 'the children were often stolen.'" (*Queenslander*, February 25th, 1882, p. 237.)

"A Boulia telegram in the *Winton Herald* says: 'An aboriginal girl who frantically resisted, was forcibly torn from her mother, placed on a horse, and taken off by two white men, who were brought up at the Boulia police-court charged with child-stealing . . . The child, in giving her evidence, said she was tied up to a tree at night while travelling with the prisoners, also that she had been beaten by one of them. The arresting constable, John Smith, stated that he found the child in prisoners' camp 100 miles from Boulia.' The child's mother had complained to the police." (*North Queensland Herald*, July 2nd, 1892, p. 42.)

See also the *Report of the Administrator of the Northern Territory for the year* 1912, p. 43.



FIG. 1.



FIG. 2.



FIG. 3.



FIG. 4.

FIG. 1.—KO-BRO ("BARNEY"). HEAD-MAN OF THE SECTION KO-BRO. († AUGUST 18TH, 1899, AGED ABOUT 53.)

FIG. 2.—WOONGGO ("MICKEY"). HEAD-MAN OF THE SECTION WOONGGO.

FIGS. 3 AND 4.—KYRA, SON OF KO-BRO, OF THE SECTION KOOROOKILLA. (BORN ABOUT 1863.)

(*From photographs by Mrs. Christison in* 1896 *and* 1898.)

THE DALLEBURRA TRIBE OF NORTHERN QUEENSLAND.



FIG. 1



FIG. 2



FIG. 3.



FIG. 4.

FIG. 1.—BOOLOODEA TIMULLINYA (WYMA), OF THE SECTION BUNBERRY. (BORN ABOUT 1850, DIED 1926.)
FIG. 2.—NOWUN-JUNGER ("MARY"), OF THE SECTION KO-BRO.
FIG. 3.—GIRL ("NELLY"), MARRIED BY A WHITE KANGAROO-SHOOTER.
FIG. 4.—GIRL ("TOPSY"), OF THE SECTION KOOROOKILLA. (AGED 6.)

(*From photographs by Mrs. Christison in* 1896 *and* 1898.)

THE DALLEBURRA TRIBE OF NORTHERN QUEENSLAND.

and in the absence of an authoritative statement and of evidence I am inclined to keep an open mind. It is most unfortunate that Beddoe did not ask my father to give the address. The only evidence that immediately occurs to me is in favour of the blacks, viz., Colonel Warburton's account of his east-to-west exploration, reported in the *South Australian Register* of April, 1874, and quoted by Rusden in his *History of Australia*, ch. xvii.

Appendix B.

The following list of words, found among Christison's MS. notes, is additional to the Dalleburra dictionary published in E. M. Curr's *The Australian Race*

Bower bird	*Oalbaalbee*; also *Toonoorra*.
Belonging to	*Natoonda*
Dry, hard	*Yaaba*
Grass, spinifex	*Yakka kaadaloo*.
Hair	*Boogoo* and *Bareegat*.
Lotus flower	*Woodaeera* and *Boodoocarra*.
Lake	*Farraba*.
Pigeon	*Poorroorabee* and *Bobbalgerra*.
Potato, wild	*Woodaroo*.
Sister	*Kaddaroo* and *Yaroalba*.
Tea bush	*Moon moppeeroo*
Thunder and lightning	*Boorcoroo*
Wind	*Parraba* and *Barraka*
Yesterday	*Nokeroo* and *Yelkaroo*.

MISCELLANEOUS RECORDS RELATING TO THE NANDI AND KONY TRIBES.

By G. W. B. Huntingford.

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PART I.

THE following notes are offered as a supplement to Sir A. C. Hollis's work, *The Nandi: their Language and Folk-lore*.

References:—H.N. = Hollis, *Nandi*: H.M. = Hollis, *Masai*: B. = M. W. H. Beech, *The Suk: their Language and Folk-lore*.

1.—RELIGION.

(a) "The supreme deity is Asista, the sun, who dwells in the sky: he created man and beast, and the world belongs to him." (H.N., pp. 40, 41.) The word *Asista* is the secondary form (= indefinite or primary form — definite article suffix) of the primary *Asis*. A distinction is often made between *Asis*, meaning "god" and *Asista*, meaning "the sun," which distinction is also made by the Il-Kony of Elgon, e.g. *par-iñg' Asis* (may God kill thee): *am-in Asista* (mayest thou die of sun-stroke). The word *asis* seems to mean "light": it is used in Suk with the meaning of "day." It is curious to note that the Suk regard Asis as the younger brother of the creator Torôrut (the sky) (Nandi, *tororot*). (B., p. 19.) The Tuken or Kamasya say that Asis (the sun) is the wife of Torôrut (the sky). (B., p. 19.) We may note in passing that in Masae the sun (*eng-oloñg*) is regarded as the husband of *ol-apa* (the moon), and that, grammatically, *eng-oloñg* is feminine and *ol-apa* masculine.

(b) An alternative word for "god," used by the Nandi, is *Cheptalil*, which was explained to me as meaning "the sun, because he has one round eye." Etymologically it seems to mean "the thing that always (still) gleams or shines." The diminutive prefix *chep-* marks it as being a kind of nickname.

(c) *The Ancestor Cult.*—The Nandi believe that the spirits of their ancestors and relations dwell in the *koret ap oi*, or spirit-land, which is under the earth. The spirits, which are called either *oiindet* (pl. *oiik*) or *musambwanindet* (pl. *musambwanik*) (this is a Bantu word, *e.g.* Lu-Isukha, *umusambwa*), appear at various times to their own people. Thus, a person who is collecting firewood by the river may hear a noise like a dry stick being broken—"*til*," as the Nandi call this noise—and, looking round, will know that it is a spirit, to which they say, "*I oiindennyō*" ("You are my spirit"). The spirit having manifested itself, goes away, and the person sees something *ne ne tomurimiret ap ēat* (which is like the shadow of an arm) go by. Spirits which call people's attention are usually benevolent, but evil ones are also to be met with; they are generally called *musambwanindet*, which really means an evil spirit, rather than *oiindet*, a good spirit. Evil spirits sometimes come behind people on a road or open place, and catch hold of their legs from behind, whereupon the person falls down or trips: if this happens more than once, he knows that a spirit is angry, and offers milk to some ancestral spirit. They are also liable to appear at night in houses, and say to people, "*Nyo, kephe oi*" ("Come, let us go to spirit-land"), to which the person says, "*Achecha, achecha, maaruntē*" ("No, no, I will not go");

and in the morning he must offer milk to the spirits. When a friendly spirit meets a person in the open, it is said "*Cheptalil ne indor, si ko'muta*" ("It is God who has gone in front to lead me"). The spirits of relations appear to people at night in their houses, often to women (and especially women with child), though they also appear to men, in the following ways:—

(1) A woman may dream that the spirit of a dead child comes up from the floor, and says, "*Nama, korket*" ("Take me, mother").

(2) The spirits of parents, grandparents or great-grandparents appear in dreams (*karnotitoiet*) to women who wish to have children, and speak to them. In the morning, a woman who has been thus visited must pour some milk on to the floor of her hut, and say, "*Iro cho chêko*" ("Look at this milk"). After this she will conceive,[1] and when her child is born he will receive as his first name, or *kainet ap oiik* (the name of the spirit), the name of the spirit that appeared to the mother. (H.N., p. 66, refers to the *kainet ap oiik*, but does not mention the reason why any particular ancestor's name is chosen.)

(3) The spirits also appear in the forms of snakes or animals. The snake that they seem to prefer is the python (*indaret*).[2] A python may come into a house and lie on a person's blanket, and perhaps look at someone. In the morning it is given milk, the usual formula, "*Iro cho chêko*," being pronounced. Snakes in which are the spirits of ancestors are said not to harm people when they come into a house, and they in turn must not be harmed. An instance was given me of a man who killed a python which came into his house, and put it out on a rock for the hawks to take: it remained four days without being taken, this being because it was "*indaret ap oiindet*" (a spirits' snake). As the result of his impious action, the man gradually lost most of his cattle from one cause or another. *Cf.*—

> "... lubricus anguis ab imis
> septem ingens gyros, septena volumina traxit ...
> ille agmine longo
> tandem inter pateras et levia pocula serpens
> libavitque dapes rursusque innoxius imo
> successit tumulo et depasta altaria liquit.
> hoc magis inceptos genitori instaurat honores,
> incertus geniumne loci famulumne parentis
> esse putet."[3]

(4) They also appear in the form of rats (*muriat*, pl. *murek*) or moles (*pañqañqaret*, pl. *pañqañqonik*). If such animals, having come into a house—

[1] It may be noted that the Nandi say they can determine the sex of a child before birth. If it moves from the right side to the left, it will be a boy; if vice versa, a girl.

[2] *Indaret* is also used to mean a small black snake: another name for python is *chebkout*.

[3] Verg., *Æn.*, V. 84—96.

and the Nandi say they can tell the difference between an ordinary rat and a "spirit-rat"—are inadvertently killed, they may be brought to life again if some milk is put beside them, when they will drink some of it and leave the house. It is better, however, not to kill them when they come into a house, as one can never really tell whether they are "*tioñgik ap oiik*" (animals of the spirits), or just ordinary animals, though they may be killed without compunction when seen outside in the daytime. A spirit may also appear in a dream to a person and seem to catch hold of him, after which, in the morning, he must make an offering of milk to the spirit of whichever ancestor he supposed visited him in the night, in order to avoid illness.[1]

The Mâsae have the same sort of notions about *il-taajo, oo 'l-meneñga loo-'l-tuñgunik, oo 'l-asuria* (people's souls, and spirits, and snakes). "When a medicine-man or a rich person dies and is buried, his soul turns into a snake as soon as his body rots, and the snake goes to his children's kraal to look after them. The Masai, in consequence, do not kill their sacred snakes, and if a woman sees one in her hut, she pours some milk on the ground for it to lick, after which it will go away." (H.M., p. 307.) The Mâsae snakes are not confined to one particular kind: they are *'l-asuru lenge samba* (snakes of many colours). "Some have a head like an old man's cloak" (H.M., p. 308), which is probably a cobra. Hollis, *in loc.*, quotes the beliefs of tribes of the Nilotic race regarding snakes: "The Dinka, Bari, Latuka, and other Nilotic tribes also pay reverence to snakes."[2]

2.—WITCHCRAFT.

(a) *Divination* (ñgorset).—The principal kinds of diviners (*ñgorindet*, pl. *ñgorik*, from *ñgor*, [to] divine) are (i) *Kipsakeigot*: (ii) *Kipuñgat*: (iii) *Kipisachat*: (iv) *Sakeiyot*.

The *orkoiik* (*see* below, paragraph (b)) also are in the habit of saying that they deal only in divination: this, however, is not true.

(i, ii) The *kipsakeigot* (from *sach*, [to] divine), and *kipuñgat* (*cf.* Kony. *kipungano*, power) have been dealt with in H.N., p. 51. It may be added that the *kipsakeigot* makes use of the sense of smell in addition to other forms of divination, and he can curse people. A case, in which a *kipuñgat* was employed to detect a thief and to trace the stolen thing, came to my notice in January, 1926. The *kipuñgat* was a warrior of the Nyongi age, named Arap Tongo, of Kiptildil, in Emgwen. Some money had been stolen from the pocket of a man's coat, which had been left on his bed: the *kipuñgat* said, "The thief is red-coloured, he has projecting teeth, and his ears have not yet been bored. Twist some grass together, and place it where the money was stolen: go back at 2 p.m. and you will find the money." The plaintiff

[1] This resembles a Bantu belief, found *e.g.* among the Awa-Kyan of North-East Uganda, quoted in *Man*, *East Engl.*, 1925, p. 99.

[2] Kaufmann *Schilderungen*, pp. 127, 188, etc.

did as directed, and, returning at two o'clock, found someone else engaged in removing the posts of his bed which had been fixed in the ground. At the bottom of the first post-hole he found the stolen money, less one shilling. Suspicion attached to a Nandi who happened to answer to the *kipuñgut's* description, but the theft was never proved against him.

(iii) The *kipisachit* (from *isach*, [to] shake) divines with water. They have two methods of divination:—(1) A gourd (*sotet*) is filled with water and shaken, by doing which a vision is conjured up. (2) A gourd is beaten, and the spirit of an ancestor raised, which speaks from the gourd and gives such advice as is required. This is probably ventriloquism.

(iv) The *sakegaat* (from *sach*, [to] divine), like the *kipsakeiyot*, uses the sense of smell to divine. He also, like the *kipisachit*, uses a gourd full of water.

(b) *The* Orkoiyot (*pl.* Orkoiik).— These all belong to the Talai clan, and are the most influential people of the tribe. The title of the chief medicine-man is *orkoiyot*.

Meaning of the Word.—The word "*orkoiyot*" was not, however, always used with its present meaning. It is found in the more primitive Nandi tribes, *e.g.* Kony, *orkōan* (*orkōandet*), and Suk, *werkoiyon*, with more or less the significance of the Swahili *mganga*, i.e. a wizard of a benevolent nature, who was regarded with toleration, and distinct from the *ponindet* (Swahili, *mchawi*), who is only evil. The etymology of the word is unknown; it may possibly be derived from the word *koiyo* (raided cattle).

Origin of the Orkoiik.—According to a story related to me by Chesiñgañga arap Kipsambai,[1] a young man, who was the child of a python, and who had been brought up by a Nandi woman, obtains magical powers by causing "four cows, a bull, a he-goat and ram" to be killed, and the butter-fat (*mwaita nepo tan' gīna*) to be removed. This being done, *ko'ro chito, kokeny, kome; ko'ro têta, kokeny, kome; ko'ro ketit, kokeny, kome* (he looks at a man, who dies afterwards: he looks at a cow, which presently dies; he looks at a tree, which afterwards withers). He then trampled on the bull, and the he-goat and ram, and, having been anointed with the fat, became *orkoiyot nepo korok* (the first medicine-man).

The Orkoiyot *as Chief.*—The Nandi language has no equivalent for "chief," beyond the word *kiruogindet* (pl. *kiruogik*) (councillor): and in early times the government of the country, such as it was, was in the hands of *kiruogik*. About 1850, however, the system of *orkoinotet*, or rule by an *orkoiyot*, was introduced from the Uasin-Gīshu Mâsae: the name of the first *orkoiyot* of the new type is said to have been Marasoi[2] (*oi* = spirits). This was a direct borrowing of the Mâsae system of rule by an *ol-oibōni* (the proper form of the usual *laibon*), which the Nandi still retain.

[1] An elder of Kapkiptalam in Masop, of the Kaplelach age: regarded by the Nandi as one of their chief folk-lore authorities.

[2] Arap Kipsambai, however, says that Kopokoii (= stone house) was the first *orkoiyot*, and that Marasoi was his son. Kopokoi was a Uasin-Gīshu Mâsae: he is generally thought to have been the second *orkoiyot*.

Powers of the Orkoiik.—The chief *orkoiyot* is head of the tribe: and though the government of the country is in the hands of the warriors of the circumcision age (*ipinda*) in power, nothing can be done without his official sanction. The *orkoiyot* belongs to the Talai clan, and all witch-doctors of this clan are called "*orkoiik*." The *orkoiyot* is greatly feared by the tribe, and derives his authority from the fear he inspires. Presents are made to him by people who wish to obtain some particular thing. Thus, in October, 1926, when there was a very heavy rainfall out of season, people from all parts of Nandi brought presents of *pak* (*Eleusine coracana*) to the *orkoiyot*, in the hope that he would stop the rain. His efforts to do so were not successful. Mr. G. M. Castle-Smith, when D.C. Nandi, told me that, upon his asking Arap Kipeles, the *orkoiyot*, whether the *orkoiik* really have such powers as people said, the *orkoiyot's* answer took the following form:—He took a thin rod (*kerakto*), and, extending his left arm, which was bare, laid the rod across the palm with the right hand and then withdrew his right hand, leaving the rod across the other hand. The rod then, of its own accord, moved up his left arm to the shoulder.

The *orkoiik* are said, *inter alia*, to be able to kill a man by putting a small black snake, called *indaret*, into his stomach, after which the man dies and the snake issues from his body and disappears.

The attitude of the younger generation towards witchcraft is shown by the statement that "We know it is nothing (*puch*), but all the same we believe in it, and are afraid of the witch-doctors."

(c) *Punishment of Witches.*—A witch when caught is sometimes punished by having a leather thong tied tightly round her head—the thong is attached to the end of a whippy tree, which is bent over: the tree is then released and springs back, the force of the spring making the thong cut into the woman's head, leaving a mark thereon.

(d) *The Evil Eye.*—Certain persons are said to have the power of bewitching with the evil eye (*sakut*): they are called "*sakutindet*" (pl. *sakutik*). They may be men or women, and the power is not one that is learnt and practised, but is innate, and the exercise of it is quite involuntary. For instance, a man who bears his fellows no ill will may be unable to stop himself from making them ill if he so much as looks at them. If a person has an injury or sore on his body he must keep it covered until it has healed, or a passing *sakutindet* may chance to look at it and thereby retard its healing.

The W-Isukha or Awa-Isukha (Bantu Kavirondo) say that certain women have a somewhat similar power which they call *Vusôla*, which makes a woman bewitch a small child if she looks at it. The bewitchment has the effect of making the child's stomach swell up, and if it is not rubbed with some kind of fat, such as butter, the child will die. Such women can be cured by a witch-doctor (*umukhomo*), who gives them leaves of a certain tree to eat.

(e) *Place-Names relating to Witchcraft.*—There are in Nandi certain place-names which appear from their etymology to refer to witchcraft. Such names are—

Ain' ap sētan, a river in N. Wareñg = river of war medicine. *Sētan* is a concoction given by the *orkoiyot* to warriors before they go on a raid, in order to protect them.

Koripan (spelt "Goyban" on the G.S., G.S. map, E.A.P., sheet $\frac{\text{North A—36}}{\text{W}}$).

Apparently from *koi* (rock) and *pan* ([to] make magic, bewitch). (Cf. *koitsakat* = ? slaughter stone: *koiparak* = high rock: *lelkoii* = white rock.)

Ponjoke, a *koret* (district) of Aldai. Apparently from *pan* ([to] bewitch) and *choke* (a granary).

Except in the first instance, these names are rather obscure. I can, however, see no other explanation of them: nor could I obtain any information as to why they were so called.

3.—Superstitions and Omens.

(a) *Places to which Supernatural Traditions are Attached.* Chepilat, a hill in Aldai ("Thunder hill"). Near the summit of this hill was "buried" Kakipoch, who came from Elgon *c.* A.D. 1600, and was the first to settle in Nandi. The place where he and his possessions were laid out on an ox-hide, and left for the hyænas, is marked by the stump of an olive-tree. A little above this is a deep hole in the rock, called "*kond' ap oiik*" (the eye of the spirits), at the bottom of which is some water called "*pêk am musambwanik*" (the water of the ghosts). When I visited the site in February, 1926, some small creature was crying in the rocks. My guide, Kipsambo arap Kosapei, the head-man of the district, said it was God and he said to it, "*Meīr, ipaipun omitnagik*" ("Do not cry, I will bring you food").

Chepeloi, a hill near the western border of Nandi. This name is an abbreviation for "*susuek che pel' oi*" (the grass which spirits burn), because "*Kopele musambwanik susuek araiwet ap Kiptamo, pele kemboi, amun mamenge Nandi*" ("The ghosts burn the grass in the month of February, they burn it at night, wherefore the Nandi do not live there."—Arap Kipsambai). (*See also* H.N., p. 100.)

'Meneñgai. Though the crater of 'Meneñgai, near Nakuru, is a long way from Nandi, the Nandi regard it as being haunted. Arap Kipsambai told me, "*Koip chii kirokorek em 'Meneñgai, kokonor, nakomi, kakoip musambwanik*" ("If a man takes walking-sticks to 'Meneñgai, and puts them down, they are not there, the ghosts have taken them") "*Meneñgai* is a Mâsae word meaning "the corpses."[1] It occurs in Nandi in the *koret* name *Lo-'l-meneñgai* (the-of-the-corpses), from the Mâsae burial cairns there.

[1] Or, "the ghosts."

(*b*) *Chemosit.*—The Nandi say that there is a devil with one leg and nine buttocks and a fiery mouth, which goes about at night catching children and eating them. The 'W'-Isukha formerly believed in the existence of a large black dog called Limani, which went about at night with fire issuing from its mouth: they say, "*Lilia 'wanta, khundi kero lirtho mbaba*" ("It ate people, but is not here nowadays").

The name *Chemosit* is also applied to a very fierce animal, reports of which have been heard in various parts of Kenya Colony, to which the late Dr. Heard gave the name "Nandi bear." There are, I believe, few, if any, authenticated instances of Europeans having seen it, though many Nandi and Keyu will affirm that they have seen it. A Nandi, who posed as having seen it, told me that it was bigger than any hyæna, and had long, coarse, reddish hair and long feet. It is said to scalp people. Some people think that it may be a gorilla.[1] The name "*Chemosit*" may perhaps be derived from the formative prefix *chep-* and the verb *mas*, [to] strike.[2]

(*c*) *Omens.*—To the list of omens in H.N., pp. 79–81, may be added the following:—

Phlegm (*ŋgalek* or *ŋgarare gnot*) in the throat is a sign that a stranger is coming on the next day.

A large black-beetle in the house foretells the near arrival of a stranger.

Bats in the house are considered to be very lucky.

Crickets in the house are said to be lucky: they foretell an increase of cattle.

Grass is sacred, as it is the food of cattle: it is therefore unlucky to strike people with it.

Among the Kony, when a man is accused of telling a lie, he will tear up a handful of grass, when he must be believed.

(*d*) *Names of the Dead. Tabu.*—Under ordinary circumstances the name of a dead person may not be mentioned. A Nandi who had lost a child, in trying to tell me its name, said, "My child was called 'Tiondo' (animal), one that the Swahili call 'Nyoka.' Now you know its name." The child was called "Erenet" (snake).

4.—CATTLE.

(a) *The* Sigoranet.—Certain cattle and goats are considered unlucky and are called "*sigoranet*" (pl. *sigoranōk*). Such are: (1) an ox or cow, the nostrils of which have been made to bleed by being caught in the branch of a tree: (2) cattle

[1] I am not aware that gorillas have ever been seen in Kenya, though when I was living on the Elgeyo border, in 1921, there was a rumour locally that a strange monster was in the forest, which some people thought was a gorilla. Another explanation put forward by some is that *Chemosit* is a giant badger.

[2] The derivation of *Chemosit* from *chii* (a man) and *mosi* (the ape) is absurd. For one thing, *che-* cannot represent *chei*; and the primary form of the word is *chemos*. (The primary form of *mosi* is *mosa*, older *mosion*.)

whose tails are frequently caught in trees; (3) a cow or goat which does not swallow all the grass it eats, but keeps some in its cheek, and does not let it go into the stomach. (Other *sigoranōk* are given in H.N., p. 80, last paragraph.)

(b) *Love of Herding Cattle.*—When a Nandi head-man was asked why his people did not train their oxen to plough, he said, "If we worked all our oxen, what should we have left to herd?"

(c) *Kony Cattle-Names.*—The 'l-Kony of Elgon have, like the Nandi, and Suk, and other tribes of this group, names for different types of cattle. Such names are[1]:—

Kony.	Nandi.	Suk.	Meaning.
Kimasas	Kimasas	Chemasas	Ox with cut ears.
Têta nye tui ...	Kimiso	—	Black ox.
Tuimet	Koroiit	Korondo[2]	Black-and-white ox.
Kipsirue	Kipsirue	Sirwei (=piebald)	White ox.
Kipsitye	Kipsitye	Mukendo	Red-brown ox.
Kimukye	Kimukye	—	Partly brown ox.
Kipsamo	Kipsamo	Samogh	Dapple-grey ox.
Kiporus	Kiporus	Orus	Light-grey ox.
Kipkaro	Kipkarai	Lemu	Hornless ox.
Kimñgatimet ...	Kimñgatimet ...	Ñgatip .. .	Ox with erect horns.
Kipuruk	Kipuruk	Kōda . .	Ox with horns pointing forwards.
Kipseta	Kipseta	Setan-e	Ox with crumpled horns.
Kipkulunymet ..	Kipkulunymet	—	Ox with horns pointing inwards.
Kimakoñgda ...	Kimakoñg ..	—	One-eyed ox.
Kimñgososiet[2] ...	Kimñgosos .	Korkor	Shy ox.
Kiprewenot ..	Kiptenden .	—	Thin ox.
Yakwai	Sambu	Akwagh	Sleek ox.
Yosit	Osit	Yos . ..	Old cow.

The following names of cattle are not given in the list in H.N., p. 280:—

Chepkorat	A blind ox.
Kamarokoñg	A black ox with a light stripe on its face.
Lelmet	A cow with a white head.

5.—Circumcision.

(a) *The* "Kikule-kwet" *Ceremony.*—The male circumcisions take place at intervals of about fifteen years. Before each circumcision takes place a preliminary ceremony is held, called "*Kikule-kwet*" ("We bleed the goat") (from *kul*, [to] bleed, cup, and *kwet* or *akwet*, goat). This ceremony is held in each *pororuet*,[3] and

[1] The Nandi names from H.N., p. 280: the Suk, from B., p. 130.

[2] The feminine of this word, *Chemñgososiet*, is used to mean "a cow that is thought to be in calf, when really it is not." (Arap Tirim, of the Kiporitiek division, chief Arap Kieptek.)

[3] The *pororuet* (pl. *pororōsek*) is a major territorial division of the Nandi country: there are 15 in all, divided among the 5 *emotwonik*, or "counties."

is a representative gathering of the people of the *pororiet*. It lasts one day, and much beer is drunk, the drinking starting in the morning. During the day a goat is killed, and eaten by the uncircumcised boys (*ñgetik*) who are present.[1] This ceremony is not performed by the Moi clan, who have a ceremony of their own called "*Kiireku-leget*" ("We take off the belt") (from *ireku*, [to] take off, and *legetio*, belt). (H.N., p. 10.) (Information from Arap Tēko, head-man of Kâptumoiis in north Emgwen.)

(b) *Circumcision of Girls.*—As an alternative to the excision of the clitoris with a knife (H.N., p. 59), the circumcision of girls is sometimes done with red-hot charcoal, which is placed on a potsherd and applied to the girl's body, thereby burning the clitoris. During the operation a girl who is a virgin sits on a stool,[2] while girls who are not, stand.

(c) "Ipinuagik."—The seven circumcision ages (*ipinda*, pl. *ipinuagik*) may be arranged in the following chronological form (*see* p. 427). The dates are the years in which the circumcision began. In this table the fighting age is printed in capitals, and in italics the age whose circumcision began in the year named at the head of each column.

It appears from recent inquiries and from records that Sir A. C. Hollis was misinformed about the length of the ages. He gives it as 7½ years, but it is fairly certain that the interval between each circumcision (*tum*) and between each "Handing-over ceremony" (*Saket ap eito*) is fifteen years.

——	Kimnyike.	Nyongi.	Maina.	Juma.
Circumcision	1896 A	1911 F	1926 F	1942
Saket	1908	1923 F	1938	1953

F = fixed dates. A = well attested. The remainder are conjectured; the 1908 *Saket* was due about then, but was not held.

The Kipkoiimet age was formerly called *Korongoro*, but about 1766, in consequence of a disaster in which the age was nearly annihilated by the Ipuapek, Sikilaiek, and Kaputiek,[3] the name *Korongoro* became unlucky and was not used. It still survives as an age-name in some other Nandi tribes, and in Nandi in the patronymic *Arap Korongorek*.

The present Sawe age is almost extinct.

[1] Mr. G. M. Castle-Smith, when D.C. Nandi, was the first to hear of this ceremony.

[2] And is hence called *Chemāñgecheriot* (from *ñgecher*, stool).

[3] Uasin-Gīshu, 'Sekelae, and Kaputiei Mâsae.

Cycle I. (1926-1821.)

	1926.	1911.	1896.	1881.	1866.	1851.	1836.	1821.
7	Sawe	Juma	Maina	Nyongi	Kimnyike ...	Kaplelach ...	Kipkoiimet ...	Sawe.
6	Kipkoiimet .	Sawe	Juma	Maina ...	Nyongi	Kimnyike ...	Kaplelach ...	Kipkoiimet.
5	Kaplelach ...	Kipkoiimet ...	Sawe	Juma	Maina	Nyongi	Kimnyike . .	Kaplelach.
4	Kimnyike ..	Kaplelach	Kipkoiimet ..	Sawe	Juma	Maina	Nyongi	Kimnyike
3	Nyongi .	Kimnyike .	Kaplelach ..	Kipkoiimet .	Sawe . ..	Juma	Maina	Nyongi.
2	*Maina . .* ...	*Nyongi* ...	*Kimnyike*	*Kâplelach* .	*Kipkoiimet* . .	*Sawe*	*Juma*	*Maina.*
1	Juma	Maina	Nyongi	Kimnyike ...	Kaplelach . .	Kipkoiimet ..	Sawe	Juma.

Cycle II. (1806-1681.)

	1806.	1781.	1766.	1751.	1736.	1721.	1706.	1681.
7	Juma	Maina . . .	Nyongi	Kimnyike . .	Kaplelach ...	Kipkoimet ..	Sawe	Juma.
6	Sawe	Juma	Maina	Nyongi	Kimnyike .	Kaplelach ...	Kipkoiimet .	Sawe.
5	Kipkoimet ...	Sawe . . .	Juma	Maina	Nyongi	Kimnyike ...	Kaplelach ...	Kipkoiimet.
4	Kaplelach ..	Kipkoiimet . .	Sawe	Juma	Maina	Nyongi	Kimnyike ...	Kaplelach.
3	Kimnyike ..	Kaplelach . .	Kipkoimet ..	Sawe	Juma	Maina	Nyongi ...	Kimnyike.
2	*Nyongi*	*Kimnyike* ...	*Kâplelach* ...	*Kipkoiimet* .	*Sawe*	*Juma*	*Maina*	*Nyongi.*
1	Maina	Nyongi	Kimnyike ..	Kaplelach ..	Kipkoiimet .	Sawe	Juma	Maina.

Cycle III. (1666-1551.)

	1666.	1651.	1636.	1621.	1606.	1581.	1566.	1551.
7	Maina ...	Nyongi	Kimnyike ...	Kaplelach . .	Kipkoiimet ...	Sawe	Juma	Maina.
6	Juma	Maina	Nyongi	Kimnyike . .	Kaplelach ...	Kipkoiimet ..	Sawe	Juma.
5	Sawe .. .	Juma . .	Maina	Nyongi ...	Kimnyike ...	Kaplelach	Kipkoiimet ...	Sawe.
4	Kipkoiimet .	Sawe	Juma	Maina	Nyongi	Kimnyike ..	Kaplelach ..	Kipkoimet.
3	Kaplelach ...	Kipkoiimet ..	Sawe	Juma	Maina	Nyongi ..	Kimnyike ...	Kaplelach.
2	*Kimnyike*	*Kâplelach* ..	*Kipkoimet* ..	*Sawe* . ..	*Juma*	*Maina*	*Nyongi*	*Kimnyike.*
1	Nyongi	Kimnyike ...	Kaplelach ..	Kipkoiimet ...	Sawe	Juma	Maina	Nyongi.

The full forms of the age-names, with the ages in years as they are to-day, are as follows :—

7.	Sawaya (Sawayat), pl. Sawe (Sawek)	82–97
	Sowaya (Sowayat), pl. Sowe (Sowek)	
6.	Kipkoiimetio (Kipkoiimetiot), pl. Kipkoiimet (Kipkoiimetik)	67–82
5.	Kâplelachin (Kâplelachindet), pl. Kâplelach (Kâplelachek) ..	52–67
4.	Kimnyikeïn (Kimnyikeïndet, pl. Kimnyike (Kimnyikeïk) ..	37–52
3.	Nyongio (Nyongiot), pl. Nyongi (Nyongik)	22–37
2.	Mainonin (Mainonindet), pl. Mainon (Mainonek), or Maina (Mainek)	7–22
1.	Jumaya (Jumayat) / Jumio (Jumiot) pl. Juma (Jumek)	Birth—7

At the present day, Nyongi and Maina have become synonyms for "circumcised man" (*murenet*) and "uncircumcised boy" (*ñgetet*), respectively, though when the present Maina age becomes the warrior-age, these synonyms will become meaningless and fall out of use.

The meanings of these names are very obscure. I have only been able to interpret two,[1] though further research in the Nandi linguistic sub-group may reveal the meanings of the others. The two names are—

Kâplelach = place of the white ones.
Kipkoiimet = long head.

The names Juma, Maina, and Sawe are used as masculine personal names in the forms Juma, Jumek, Kimaina, and Sawe.

6.—Clan-Names.

The clan-names are very obscure and are full of archaisms. There are two sets of names in use—(*a*) the real name of the clan, used by men : (*b*) nicknames used by women and children, which generally refer to something connected with the clan. The names of the totems (*tiondo* = animal, pl. *tioñgik*) are often used in place of the names in (a) or (b). To find out a Nandi's clan, the following phrases may be used :—(i) "*Tiondañgoñg ko ne ?*" ("What is thy animal ?") : (ii) "*Ne tiondañgoñg ?*" ("What is thy animal ?") ; (iii) "*Ne tiond' ap orenñgoñg ?*"[2] ("What is the animal of thy clan ?").

As far as can be ascertained, the meanings of the names are as follows. Of the names under (a), I am unable to interpret Nos. 3, 6, 9, 10, 12 and 15 : and of

[1] Since this paper was sent to the press, I have come across a Nubi word, which may possibly be the origin of "Maina"—viz. : *maïu*, left ; *maïna*, left-handed—in Murray's *English-Nubian Comparative Dictionary*, p. 116.

[2] In these phrases the plural pronoun is often used, i.e. *orenñgoñg* instead of *orengoñg*.

those under (b). Nos. 1, 6, 8, 9, 10 and 13. Those marked "*" are given in H.N., p. 317.

(a) *Names Used by Men.*

Clan No. in H.N.	Name.	Meaning.
1	Kipoiis	The spirits.
2	Kipkoiitim	*People of the stones of the forest.
3	Kipamwi	—
4	Kipkenda	*People of the bee.
5	Kipkōkōs	*People of the buzzard.
6	Kipiezen	—
7	Talai	Peaceful.
8	Toiyoi	? Strangers (are) spirits.
9	Kipsirgoi	—
10	Sokom	—
11	Moi	*Calf.
12	Kiptopke	—
13	Kamwaike	Place of him (who) talks by himself.
14	Tungo	? Hyæna
15	Kipaai[1]	—
16	Kipasiso	*People of the sun.
17	Kapchemuri / Chemur	Place of brown things. / Do.

[1] Hollis gives the Colobus monkey (*koroityt*) as a totem of this clan. Some members of it now say that the Tisiet monkey (*Cercopithecus albigularis*) is also their totem.

(b) *Names Used by Women and Children.*

Clan No. in H.N.	Name.	Meaning.
1	Mende	—
	Kerus	We injure.
2	Kapongen	*Place of those who know.
	Kiramgel	We draw water with the foot.
3	Ñemwiyo	Duiker.
	Kipketoi	Spirits' trees.
4	Maumi	Do not annoy.
	Maramgoñg	Do not draw water from my eye.
	Ramdolil	Draw water from the swamp.
	Kuchwa	? Trap for me.
	Kamipei	*Those who eat waters.
5	Kapsegoi	Place of those who look out for the spirits.
6	Ingoke	—
	Katamwa	Left hands.
	Kipwalei	—
7	Kipyakut	Bad-mouth.
	Tulekut	Thundering mouth.
	Kimapelameo	? The unconquerable.
8	Moriso	—
9	Palekut	He who digs with his mouth.
	Kapil	—
	Maletkam	—

(b) *Names Used by Women and Children*—continued.

Clan No. in H.N.	Name.	Meaning.
10	Kapyupe	—
11	Rarewa	*Heifer.
	Kâparitkisapony	*See* below, under "Etymological Notes."
	Kâpartatukasôs	Do.
12	Tuitokoch	Black-face.
13	Kipongoi	—
14	Korapor	*Country of (hyæna's) droppings.
	Palepêt	*He retires in the morning.
15	Koros	*Colobus monkey.
	Kapchermwamwechе	*See* below under "Etymological Notes."
16	Kipkôyo	He (who sends) hail.
	Kaparakok	*Place of those who are above.
17	(None)	—

Etymological Notes on the Clan-Names.

(a.)

The prefixes *kip-* and *kâp-* (*kâm-*) stand for "people" and "place or family of," respectively.

Kipoiis.—*Oiis* is a possible archaic form of the modern pl. of *oiin*, viz., *oi*. Some Nandi tribes, especially the Kamechak or Sapei, have a tendency to terminate a noun in *-is* where Nandi has some other ending.

Kipkoiitim.—*Koii* = stone: *tim* = forest.

Kipkenda.—*Kenda* might be a distortion of *segemya* (bee), which is a totem of this clan.

Kipkôkôs.—*Chepkôkôsio* = buzzard.

Talai.—*Tala* = peaceful.

Toiyoi.—Possibly for *toi oi*. *toi* = strangers: *oi* = spirits.

Moi.—This word is the common word for calf. The totems of this clan are the crested or Kavirondo crane, and the buffalo. The Nandi call the crane *chepa-iiti'-moii* (daughters of the calves' ears), as this clan does not brand its cattle but clips the ears.

Kâmwaike.—*Mwai* = he speaks: *ke* = by himself (perhaps alluding to the partridge (*taiyuet*), the totem of this clan).

Kipasiso.—*Asis* = the sun.

Kâpchemuri. *Che* = which are; *muri* = corrupt pl. of *mur*, brown.

(b.)

Kerus.—From *rus* ([to] injure, hurt.

Kâpongen.—From *ingen* (know).

Kiramgel.—For *ki-ram kel*, from *ram* = draw water : *kel* = foot.

Ñgemwiyo.—Kony *ñgemwiyon* (*ñgemwiyondet*) = duiker, the totem of this clan. The usual Nandi for duiker is *cheptirgich*.

Kipketoi.—*Ket* = trees : *oi* = spirits.

Maiimi.—Perhaps a corrupt imperative of *iim* ([to] annoy) = do not annoy (me), *i.e.* by stinging me (alluding to the bee, one of the totems of this clan).

Maramgoñg.—*Ma-ram*, corrupt imperative of *ram* = draw water ; *koñg* = eye. "Do not make me cry (by stinging me)."

Ramdolīl.—From *ram* : *tolīl* = swamp (alluding to the frog, a totem of this clan).

Kuchwa.—This might be a corrupt word from *ikutu* ([to] burrow) (alluding to the prohibition on this tribe to dig game-traps).

Kâmipei.—From *am* = eat : *pei* = waters (alluding to the frog).

Kâpsegoi.—From *sege* = look for : *oi* = spirits.

Katamwa.—*Katam* = left-hand.

Kipyakut. Tulekut.—These refer to the jaws (*kut*) of the lion, the totem of this clan. *Ya* = bad : *tul* = [to] thunder.

Kimapelameo.—For *kip-ma-pel-ameo ; ma-pel* might mean "unconquerable," though *ameo* is left unexplained. It might also mean "those who do not eat elephants" (from *pel* = elephants : *am* = eat). The Nandi in general do not eat elephant.

Palekut.—From *pale* = he digs : *kut* = (with his) mouth, in allusion to the bush-pig (*phacochœrus æthiopicus*), the totem of this clan.

Kâparitkisapony.—Very obscure. *Cheparit* is a cow with its ears cut (a practice of the Moi clan) : *pony* is Sapei for bush-buck, the skins of which this clan may not wear.

Kâpartatukasōs.—Also very obscure. *Tuka* = cattle : *sōs* = buffaloes. (Sapei pl. *soos ;* Nandi pl. *soos*.)

Tuitokoch presumably alludes to the chereret monkey (*Cercopithecus griseo-viridis*), the totem of this clan.

Korapor. Palepēt.—Refer to the hyæna's habits. *Kor* = country : *por* = dung : *pēt* = daylight.

Kâpchermwamweche is again very obscure. *Cher* = take : *wech* = turn or hate.

Kâparakok is a quasi-passive verb formed from the noun *parak* (above). = Those who have become above. (Or, possibly, He who has become above, *i.e.* the sun.)

It will be noticed that the word "spirits" occurs four times : this is no doubt due to the fact that the religion of the tribe is ancestor worship.

Referring to clan 17, "Chemuri." Hollis says (H.N., p. 5, *n.* 3): "It is uncertain whether this clan is still in existence." It does still exist, though it is probably the smallest Nandi clan.

Distribution of Clans.

(*See* Table of Clan Statistics.)

The following notes are based on the examination of 376 Nandi registration certificates. They show that the Moi clan is by far the largest: they also show that the clans may be arranged numerically in three groups:—

1.	2.	3.
Moi.	Kipiegen.	Kiptopke.
	Kipkenda.	Kipasiso.
	Toiyoi.	Tungo.
	Kipoiis.	Kâmwaike.
	Kipkoiitim.	Kipaa.
	Kipsirgoi.	Kipkōkōs.
	Sokom.	
	Kipamwi.	

In the table two clans are omitted, the Talai[1] and Kâpchemuri. The Talai live in a location by themselves; the last hut-tax census gave the number of adult males as 307 (as against 120 in 1919). There were no Kâpchemuri among the names examined, this being the smallest and most obscure clan. I have come across only one or two members of it.

The table further shows that the *pororōsiek* may also be divided into four groups according to their members:—

1.	2.	3.	4.
Kâpchepkendi.	Kâkipoch.	Kâmelīlo.	Kâpsile.
Kâpkiptalam.	Koileke.	Kâpsiondoi	Kâkimno and Cheptol.
Kâptumoiis.	Tipiñgot.	and Tuken.	Murk' ap Tuk' (or Kâpwareñg).
			Kimñgoror.
			Kâpianga.

With regard to the *pororōsiek*, the following points may be noted:—

(1) The *pororiet* of Kâpchepkendi, the largest, and the *pororiet* of Kâmelīlo, the largest of group 3, were the most troublesome in the early history of the administration of Nandi from 1896 to 1906.

[1] A small number of Talai who are not witch-doctors live in other locations. They represent the original clan, which existed before the introduction of the *orkoinotet*.

TABLE OF CLAN STATISTICS.

	Mok.	Kipkeyon.	Kipkenda.	Toiyot.	Kipsiis.	Kipkoiitim.	Kipsiroi.	Sokom.	Kipamwa.	Kiptopke.	Kipasiso.	Tuiyo.	Kamwaike.	Kipua.	Kipkokos.	Total.
Kapchepkendi	23	13	10	13	6	11	12	13	13	13	13	13	1	9	8	195
Kapkiptetiam	19	9	16	13	4	6	12	13	13	13	13	13	—	—	12	166
Kaptumois	17	9	13	16	13	3	9	4	3	12	3	3	—	—	—	171
Kakipoch	6	3	13	12	12	12	12	12	—	3	3	3	—	—	12	84
Koileke	8	3	3	12	12	—	12	3	—	3	12	3	—	—	12	83
Tipingot	6	3	3	12	12	—	9	3	3	—	—	—	—	—	—	84
Kamelilo	3	—	3	12	—	—	—	—	—	—	—	—	—	—	—	44
Kapsondon	4	—	—	12	—	—	—	12	—	—	12	12	—	—	—	121
Tuken	—	—	12	—	—	—	—	—	—	—	—	—	—	—	—	6
Kapsele	—	—	12	—	—	—	—	—	—	—	—	—	—	—	—	6
Kakamne	21	—	—	—	—	—	1	1	—	1	—	—	—	—	—	9
Cheptol	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Murk' ap tuk	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	4
Kimngoror	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0
Kaptiango	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0
	90	50	40	33	28	26	22	21	13	13	13	9	1	9	8	876

Note. The Kapchemnun and Talai clans omitted.

(2) The *pororiet* of Kâkipoch is named after Kâkipoch, the traditional first settler in Nandi from Elgon; it was probably the first territorial district to be established.

(3) The south-western *pororōsiek* of Kâpsile, Kâkimno, Cheptol, Murk' ap Tuk', Kimñgoror, and Kâpianga are those with the least number of members.

(4) Prior to the Nandi Punitive Expedition of 1905–6, the *pororōsiek* of Kâpchepkendi, Kâmelilo, and Tuken were in the *emet* of Soiin: the Kâpchepkendi are now distributed among the *emōtinuk* of Wareñg, Emgwen, and Aldai: Kâmelilo in north Wareñg; while Tuken is now in south Emgwen.

7.—MARRIAGE.

(*a*) The Nandi have a custom whereby a widow who has no children may "marry" a young woman and become her legal "husband." The "wife" is bought by the widow just as a man would buy his wife, and the "wife" works for her "husband" just as if she were a man. The "wife" may have intercourse with a man, and any children she may bear are the property of her "husband."

(*b*) Girls are occasionally married when very young. A child of 10 or 11 may sometimes be seen wearing the insignia of an *osotiot* (married woman), *i.e.* the earrings (*taōk*), skirt (*chepkawit*), and upper garment (*koliket*).[1]

(*c*) A youth who has been circumcised (*kipkeleldet*) may marry when all the circumcision ceremonies are finished, without waiting for the "saket ap eito" ceremony of his *ipinda*.

8.—PERSONAL NAMES.

As in the clan-names, some of the personal names are rather obscure. A selected list of names, with their meanings, is given below:—

(a) *Masculine.*

(1) Without prefix.

Juma, Jumek.—The name of a circumcision age.

Kasut, Kosut.—He sends.

Koitalel = Koiita-lel.—White stone.

Koko.—Old woman, grandmother.

Maika — ? For *mach-ka* (he wants a house) (*ch* before certain consonants becomes *i*).

Mengich.—He-goat.

Rorio.—Laughter.

Sāmeitui.—Black forest.

Sawe, Sowe.—The name of a circumcision age.

Sikilai.— ? = 'Sekelae, a division of the Mâsae.

Songol.—Ostrich feathers.

[1] The marriage of very young girls is a matter of business, *i.e.* cattle, and the girls do not have intercourse with their husbands until they are older.

(2) With prefix.

Chemñgor.—Diviner.
Chemoikut.—Calf's mouth.
Chemuke.—Large navel.
Chepkemē.—Born in the dry season.
Cheplembech.—Lies.
Chepsityo.—Born when the father had obtained a red cow.
Cheptek.—Bamboos. (Kony. *Kieptek.*)
Cheptum.—Born during a circumcision ceremony.
Cherob.—Born when it was raining.
Cheruiyo. Cheruiyot.—Born at night when people are asleep.
Cherukut.—Born in famine time. (*Rukut* = sleep hungry.)
Kimaina.—The name of a circumcision age.
Kimaiyo.—Born in the time of drinking beer.
Kimakut.—Ant-bear.
Kimalel.—Born when the new grass was sprouting. (Malel = a place where grass has been burnt, and new grass is growing.)
Kimasas.—Born when the father had obtained an ox with cut ears.
Kimelgut.—He who licks his lips.
Kimiñiñg.—Little.
Kimñgei.—Born in the month of Ñgei (May).
Kimñgeny.—Born when the cattle were at the salt-lick.
Kimñgetuny.—Lion.
Kimnyole.—Well-dressed.
Kimuguñg.—Cripple.
Kimuke.—Large navel. (Same as Chemuke.)
Kimuruon.—Brown.
Kimutai.—Born in the morning.
Kimwe.—He who flees.
Kimwike.—Born after a relation had been killed.
Kiparñgetuny.—Lion killer.
Kipchoke.—Born under the granary.
Kipē.—Born in the cattle-fold.
Kipēt.—Born in the day time.
Kipirech.—Born when soldier ants were about.
Kipirken.—Born when the mortars were beaten to drown the mother's cries.
Kipitok.—Born on a bed.
Kipiwot.—Born in the rainy season.
Kipkemboi.—Born at night.
Kipkemē.—Born in the dry weather.
Kipkēno.—Born when the goats were milked.
Kipkerich.—Medicines.
Kipkesia.—Born at harvest-time.
Kipkoiech.—Born at dawn.
Kipkoros.—Born when a sacred fire was burning.
Kipkoske.—Rejoices.
Kipkurkat.—Born in the doorway.
Kipkuto.—Ant-bear. (Kipsikīs.)
Kiplakat.—Born at night.
Kiplel.—Born when the father had obtained a white ox.
Kiplelgut.—Roan antelope (*Hippotragus equinus*).
Kiplelmet.—Born when the father had obtained a cow with a white head.
Kipoiin.—Born after the spirit of an ancestor had appeared to the mother.
Kipoiit.—Long ears.
Kipoo.—The big one.
Kipoomet.—Big-head.
Kipoomo.—Big-belly.
Kipor.—Born by the roadside.
Kiprono.—Born when the goats came home.

(2) With prefix—*continued.*

Kiprotich.—Born when the cattle came home.
Kiprukut.—Born in famine. (The same as Cherukut.)
Kipruto.—Born on a journey.
Kipsaañg } Born outside.
Kipsâñg }
Kipsaina.—Born in the loft.
Kipsarkor.—? Born when the country was saved from some misfortune.
Kipserem.—Born at the front door.
Kipsirtoi.—The jumper.
Kipsukut.—Drum or barrel.
Kiptalam.—Born when grasshoppers were numerous.
Kiptanui.—The faint one.
Kiptigoi.—Pimples.
Kiptiony.—Animal. (The name given to a twin.)
Kipuikut.—The stammerer.
Kipyator.—Born when the door of the cattle-fold was opened in the morning.

(b) *Feminine.*

Unlike men, who become Arap (Anum) (Son of (So-and-so)) after circumcision, women do not receive another name till they marry, when they become Che'po Kâpanum (Daughter of the house of So-and-so). For instance, Kimelgut, whose father's name is Kipuambok ap Kipē, becomes, after circumcision, Kimelgut arap Kipuambok: his sister, Taptowei, becomes Taptowei che'po Kâpkipuambok on her marriage.

Many women's names are the same as men's, with the prefix *chep-* instead of *kip-*, e.g.—

Chemaiyo.
Chemakut.
Chemarus (she who does no harm).
Chemasas.
Chepchoke.
Chepitok.
Chepkemboi.
Chepkemē.
Chepkuto.
Chepoo.
Cheptanui.
Cherono.
Cherotich.
Chesaañg.
Chesuñguny, masc. Kipsuñguny.

Other names have the prefix *tap-* (*tam-*) = daughter of, *e.g.*—

Tamaina, masc. Kimaina.
Tamerese.
Taminiñg, masc. Kiminiñg.
Tamnyole, masc. Kimnyole.
Taparusei (the owner of a grey bullock).
Tapelgo.
Tapkiken (she who deceives).
Tapletkoi.
Taprandich.
Taprapkoi (the wealthy one).
Taprire (she who cries).
Tapsapul.
Tapsirtich.
Taptamus.
Taptildich.
Taptowei (Tap-to-w-ei).
Tapunmoi.
Tapusambu.
Taputich (she who works for the cattle).

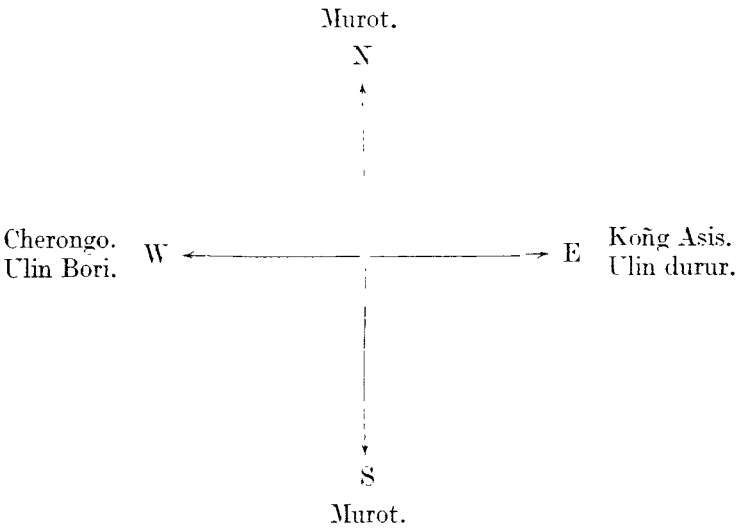
It will be noticed that several are to do with cattle (*ei*, *tich*), e.g. Taparusei, Taprandich, Tapsirtich, Taptildich, Taptowei, Taputich: and with calves (*moi*), Tapunmoi.

(c) *The Name* "Kiperenge."

"Kiperenge" is a common nickname given to uncircumcised boys: I have never heard of it as a patronymic ("Arap Kiperenge"). A somewhat similar name, "Kimnerenge," has no connection with "Kiperenge." It is said that "Kiperenge" means "Chatterer," and that it is a Kipsikis word. It is possible that it is derived from a stem occurring in *eren* (snake) and *erengatia* (spear): the latter may be resolved into *eren* and *kat* (neck), *eren* signifying something that pricks like a snake or spear. The meaning of "Kiperenge" will thus be *eren* (prick) and *k* (reflexive suffix: he who pricks or injures himself by talking).

9.—Points of the Compass.

The Nandi call the four cardinal points of the compass as follows:—



The meaning of "Murot" and "Cherongo" is unknown. "Koñg Asis" means "sun's eye," and "Ulin bori" and "Ulin durur" mean "down there" and "up there," respectively, referring to the Kavirondo country below the escarpment on the west, and to the higher country on the east of Nandi.

10.—The "Chesorpuchot."

Chesorpuchot (from *sor*, [to] look after, and *puch*, in vain) is the name given to a girl who bears a child before marriage. To do this is considered a great disgrace, and every *chesorpuchot* is "unlucky." The children of *chesorpuchonik* are exposed for the ants to eat, unless a childless woman can be found who will adopt them.

11.—FISH.

Fish (*injiriot*, pl. *injirēnik*) are regarded as unclean by most Nandi. Some, but not all, of the people of Aldai will eat them. Other Nandi refer to them as *cheringisaiik* (lizards).

12.—SONGS.

Apart from songs used on ceremonial occasions (such as those given in H.N., pp. 15, 19, 42, 43–48, 65 and 122), Nandi songs are made up for the occasion. They generally have a refrain "*Loleiyo, loleiyo, loleiyo.*" which is frequently repeated. It is sometimes varied to "*Ol-leiyo, loleiyo, loleiyo.*" A few songs seem to be well known, and refer to no particular occasion, *e.g.*—

"*Loleiyo, loleiyo, loleiyo,*
Mama, meiwendi Ranga,
Uncle, do not go (to) Ranga,
Loleiyo, loleiyo, loleiyo."

Girls, when going to circumcision, sing to their friends such songs as :—

"*Loleiyo, loleiyo, loleiyo,*
Saisere, Tilénnyo, saisere chepo kônnyō.
Good-bye, my-friend, good-bye (ye)-who-are-of my-house,
Saisere, che ko-kôn-o tukuk.
Good-bye, (ye)-who have-given-me { the-things. / the-presents. }
Loleiyo, loleiyo, loleiyo."

13.—BLOOD-BROTHERHOOD.

The Nandi have no such thing as blood-brotherhood other than two borrowed forms: (1) Patureshin, borrowed from the Mâsae (H.N., p. 84; H.M., p. 323); (2) A ceremony called "Kaliet," introduced by Swahili traders (H.N., p. 84). The verb meaning "enter into blood-brotherhood" is *kalian*, whence *kalia* (*kaliet*), and is derived from the Swahili *ku-kalia* (to sit with) (the applied form of *ku-kua*, to sit), because "a Swahili and a Nandi would sit opposite to each other" (H.N., p. 84). This ceremony is not more than about fifty years old.

14.—NANDI VIEWS OF THE FORMER INHABITANTS OF THEIR COUNTRY.

The Nandi in general call the former inhabitants of their country by the name "Sirikwa": as do also the Kipsikīs.[1] There is certain evidence to show that the Sirikwa were not the former inhabitants of Nandi, but merely a division of the Uasin-Gīshu Mâsae.[2] The term "Sirikwa" seems to be used like "Gwyddelod" in Wales (*i.e.* "cyttiau Gwyddelod") (*see* below, sec. 20, "The Kony Account of the

[1] C. M. Dobbs in *Journ. East Africa and Uganda Nat. Hist. Soc.*, vol. vi, p. 267.

[2] G. W. B. Huntingford in *Journ. East Africa and Uganda Nat. Hist. Soc.*, Jan., 1926, p. 24.

Sirikwa "). The numerous remains of pre-Nandi hut-circles of earth and stone found in parts are called "*makowangot*" (pl. *makowaniswek*) by the Nandi. I have heard an old man (Arap Rotōk, Kipkoiimet, of Kâpkiptalam) ascribe them to the "Chumba" (= civilized people, Swahili or European). And while it is clear that the Mâsae did not penetrate right into Nandi, but only occupied for a time a strip of the eastern edge of Nandi, many Nandi ascribe the hut-circles to "Mâsae" or "Sirikwa," though I have heard it admitted that the Sirikwa were Mâsae, both by Nandi and Mâsae.

In eastern Nandi, in the districts of Lo-'l-meneñgai and 'N-dupeneti, are a number of stone cairns, which the Nandi call "*makuonik*." They say that they are the graves of Uasin-Gīshu Mâsae who fought with the 'L-Aikipyak (Laikipia) Mâsae, some time between A.D. 1800 and 1850. This tradition has every appearance of being true. At the present day the Nandi have made the summits of some of these cairns into places for sitting in.

15.—Muhammadan Influence.

Though the Nandi have not been influenced consciously by Islam, there are a few details in which such influence may be traced :—

(*a*) The Nile races, when free from Muhammadan influence, do not circumcise.[1] The Nandi, though not pure Nilotic, have the Nilotes for one side of their ancestry. The old name for Nandi was "Chemñgal," and for the tribe "Chemwal," which is apparently a modification of "Chemñgal." This word, Sir Charles Eliot has with great probability suggested,[2] may contain the Turkhana word *ñgaal* (pl. of *nya-khaal*, the-camels); and that it alludes to "the borrowing, direct or indirect, of the rite of circumcision from camel-riding Mohammedans." The Nandi traditional account of the origin of their circumcision is that it was brought by a man, called Kipkēnyo ("the man of old"), from a country called To, beyond the Añgata nya-nyoke (Uasin-Gīshu plateau), *i.e.* from the East.[3]

(*b*) The Nandi have a story of the creation which strikingly resembles the account in Genesis, to the effect that God made a boy and "killed" him, and took out a rib from which he made a girl. They had a child, and God said, "Who gave you leave to have a child?" and expelled them. Miss Hansen, of the Africa Inland Mission, Kâpsabet, told me that she had heard among the Keyu a story relating to Moses. These stories probably come from the same source as the traditions recorded by Merker[4] among the Mâsae, which relate to the creation, flood, etc., and which are almost certainly borrowed, probably from Muhammadan sources.

[1] Sir H. H. Johnston, *Uganda Protectorate*, p. 760.
[2] Introduction to H.N., p. xv.
[3] H.N., p. 99. This land of Do or To seems to be the Endo country.
[4] Merker, *Die Masai*, Berlin, 1910, pp. 270 *sqq.*

(*c*) The Nandi word for "dead person" is *kimaita* (*kimaitet*), which seems to be borrowed from the Swahili (Arabic) *maiti* (corpse). This word looks like an early borrowing, since it has assumed a Nandi form, unlike recently borrowed words, which are obviously Swahili, and merely have *-t* suffixed to them

Apart from these, there seem to be no instances of Muhammadan influence. Indeed, until after the Nandi Punitive Expedition of 1905–6, no one was able to gain any sort of footing in Nandi: and since the Nandi arrived in their present country they seem to have borrowed only a few agricultural terms from their Bantu neighbours.

16.—NOTE ON THE DORŌBO.

The Dorōbo (Mâsae, Ol-Torōbōni, pl. Il-Torōbo: Nandi, Okiot, pl. Okiek; Swahili, Wa-n-dorobo) appear, from Mâsae and Nandi traditions, to be an aboriginal people who were at one time spread over a great part of the modern Kenya Colony. Both Mâsae and Nandi accounts of the creation show a Dorōbo living with other things: in the Mâsae version, with an elephant and a snake (H.M., p. 266): in the Nandi, with an elephant and the thunder (H.N., p. 111). Another Mâsae story says, "*Itadua, opa il-Mai naa ninje 'l-Torōbo, neata opa 'n-gīshu. Ore 'l-Torōbo naa ninje ooata 'n-gīshu.*" ("The Mâsae were formerly Dorōbo, and had no cattle; it was the Dorōbo who possessed all the cattle.") (H.M., p. 270.)

It appears that all the true Dorōbo speak a primitive dialect of Nandi.

A few Dorōbo live in the Tindiret hills, south-east of Nandi, a favourite resort for outlaws of all tribes. Few Europeans have seen Dorōbo, and many people who pass as Dorōbo are really outlaws of other tribes.

17.—THE WORD "E-WUYUWUYU."

In Sir A. C. Hollis's vocabulary of the dialect of the 'l-Kunōno (Mâsae smiths), referred to by Sir Charles Eliot in his Introduction to H.N., p. xxxiii, are given four words, of which Sir Charles says they are "not like either the Masai or the Nandi equivalents." One of them is *e-wuyuwuyu* (axe) (Nandi, *aiyuo*; Mâsae, *e-repilet*, or *en-dolu*). I suggest, however, that it may be connected with a word, meaning "axe," found in some Bantu languages of the Eastern Nyanza group, *e.g.* Lu-Isukha, *i-haigwa*; Lu-Kusu (Kitosh), *i-yuwa*; and hence with the Nandi *aiyuo*, since it seems that Nandi *aiyuo* = Bantu *ihaigwa*.

18.—THE KONY OF MOUNT ELGON.

Name.

The Kony are generally called "Elgon Masai," or "Elgonyi," by Europeans. They call themselves "l-Kony (Konjek)," sing. "Koñgin (Koñgindet)."

Ethnology and History.

The Kony are a Nandi tribe who live on the southern or Kenya side of Mount Elgon. They appear to be part of the original Nandi stock who stayed on Elgon when other sections moved away to the east and south-east.[1] Of their modern history little is known. In 1921–2 the tribe was removed by Government and placed in Northern Kitosh, under Murunga, the Kitosh chief, with Arap Kieptek as their own chief. Many of them fled and hid in the forest, while others took refuge with Arap Sangula, in Uganda.

Geographical Divisions.

The Kony inhabited about a quarter of Mount Elgon, *i.e.* more than half that part of the mountain which is in Kenya Colony. Their country extended more or less from the Lako country north of Kitosh, to the Nai swamp on the east, up to a height of 10,000–11,000 feet, and included an area of some 250 square miles.

The country is divided into districts (*koret*, pl. *korotinwek*) named after the rivers, which are, from West to East:—Sosian (*Phœnix reclinata* palm), Kipkulkul, Kâpēwân (place of *Ewât* trees), Kasowai, Rongai (narrow), Kwoitobos.

The tribe has three divisions which are called—Kiporitiek, Kipsaratuk, Somekek (who lived in caves).

In 1923 the chiefs were:—

Division.	Koret.	Former Chief.	Present Chief.
Kiporitiek	Kipkulkul	Arap Kieptek	Arap Kieptek.
	Sosian.		
Kipsaratuk	Kwoitobos	Arap Kasisi	Arap Kasisi.
	Rongai.		(Arap Sangula.)
	Kasowai.		
Somekek	Kapēwan	Arap Kiepkwony ...	Arap Kieptek.

Government.

The Government was formerly in the hands of the three chiefs of the divisions, who are called "*ngoriondet*" (pl. *ngorēnik*). Each chief had a head-man (*ngoriondet nye miniñ*): each *koret* was in the charge of a captain, called "*olaterat*" (pl. *olaterāk*), who was responsible to the *ngoriondet nye miniñ*. The *ngoriondet* is not of necessity a witch-doctor (*orkōandet*): of the four named above, Arap Kieptek alone is.

Cattle.

The Kony are, like the Nandi, a tribe of military herdsmen, who regard cattle as their chief possession: they are also strongly addicted to cattle-stealing.

[1] "Early History of the Nandi," *Journ. East Africa and Uganda Nat. Hist. Soc.*, 1927.

During the day-time the cattle are herded in the grazing-grounds (*lomōsiek*) by a herdsman (*mestōandet*), who is generally a small child. At night they are shut up in an enclosure (*sijiet ap tuka*). They are frequently driven to salt-licks (*ŋgeŋgda*, pl. *ŋgeŋgwek*). If there are none near the grazing-grounds, the women fetch salt from the caves (*kepenet*), of which there are great numbers: the salt can be cut out in slabs and resembles soapstone.

Cattle are bled periodically and the blood is drunk. When herding for Europeans, the Kony like to report that cattle are sick and must be bled: this is generally an excuse to get some blood.

Goats and sheep are herded separately from the cattle, and at night sleep in a compartment of the owner's house, called "*injorut*."

Houses.

The Kony have no villages, but live in small groups of huts (*kuita*, *kot* or *kut*, pl. *korik*), which consist of the dwelling-house, granary, and cattle-enclosure. The dwelling-houses (*kôtet*) are circular, and are built of wattle and daub: the inside walls are plastered with cow-dung. The hut is divided into two parts, the people's part (*itōgit*)[1] and the goats' part (*injorut*). The walls are about 4 feet high. The door (*kurket*) is made of wicker-work hurdles (*tumbet*) which are plastered with cow-dung. The front door is called "*kurket ap tue*," the back door "*kurket ap lit*." Adjoining the hut is the cattle-enclosure (*sijiet ap tuka*), made of branches of trees and thorns.

Dress.

Small boys wear a goat-skin (*ingoriet*) and a bead necklace (*sānāek*). Young girls wear a leather apron (*ingoriet ap kiepto*) and an upper garment of skin (*ingoriet ap ko*). For ornaments they wear iron necklaces (*singaint*), iron-wire bracelets (*tuet*) and bead armlets and necklaces (*sānāek*), and iron-wire armlets (*olgatariandet*). As among the Nandi, both boys and girls put cylindrical blocks of wood into the pierced lobes of the ears to stretch them. The tribal-mark is a hole bored in the top of the ear (*ingeberit*), into which children put pieces of grass (*susuek ap iitit*).

Warriors wear two or more goat-skins sewn together, called "*makutet*," or else a piece of cotton cloth called "*marikanet*" (Swahili, *amerikani*). They sometimes wear a small apron behind (Nandi, *koroiisit*), which is fastened to the belt (*kimoitet*). For ornaments they wear chain bracelets (*sirimoraqik*), bead bracelets (*sānāek*), leather leglets (*mungesiet*), and sometimes an anklet to which are fastened a number of small bells (*kipkurkuriet*), a chain above the calf of one leg (*sirimgondet*), and an iron arm-clamp (*cheposta*).

[1] The Kamelilo Dorōbo also call this part of the hut "*itōkto*." In Nandi the word "*itokut*" means "bed."

Married women wear two garments of dressed leather—a skirt (*kesemet*) supported by a belt (*legetiet*), and an upper garment (*angoriet ap korket*). Their ornaments are similar to those of the girls: they also wear a large disc of brass wire hung from each ear by a strap. These ear-rings are called "*tuet*," and are the sign of marriage. If by their weight they hurt the ears, they may be hung round the neck.

Hair.

Women and children shave their hair. Warriors grow the hair long and plait wool into it, to which they often attach a pig-tail. In front the hair of the men is either twisted together and tied in a number of small tails, or trimmed short and even, as if brushed back. Others wear the hair bobbed.

Weapons.

The weapons of the Kony are similar to those of the Nandi described and illustrated in H.N. They consist of the spear (*ñgotit*), shield (*loñget*), sword (*rotuet*), sword-scabbard (*chōket*), and club (*rungut*). The spears have a long and narrow blade, a short haft and a long iron butt (*kasipet*). The point of balance is not at the haft, as in Nandi spears, but at the socket of the blade.

In hunting they use a spear with a long haft, a short blade, and a short butt: a bow (*kuyañgda*), and arrows (*kôtiek*). The bow-string is called "*ūnet*."

Social Divisions.

The male sex is divided into boys (*ñgetik* or *lekōk*), warriors (*murenik*), and elders (*poiik*): the female sex into girls (*tīpik*), married women (*korusiek*), and old women (*chepiosōk*). After circumcision, a boy becomes a man and a girl a woman. In the case of girls, marriage follows soon after circumcision.

Agriculture.

The Kony cultivate small fields of a quarter to half of an acre. The initial work of clearing a plantation (*imbaret*), such as cutting off the boughs of trees, and ring-barking large trees, is done by the men: the actual cultivation is done by the women. The implements used are the hoe (*ngongot*), the axe (*angat*), and a large knife (*rotuet*, called in Swahili "*upanga*").

The crops grown are:—*Megendiek* (*Eleusine coracana*), *masomuanek* (maize), *mosongek* (millet), *naborik* (sweet potatoes), *kamaganduk* (beans), *tumut* (tobacco).

The corn crops (*paigwat*, pl. *pāk*) when reaped are stored in granaries (*choket*, pl. *chokūnik*), which consist of large cylindrical baskets 3 feet or 4 feet high, made of wicker-work with a wicker floor. They are raised on wooden supports a foot or two above the ground, and have conical wicker-work lids, which can be lifted off, and which are fastened to the top of the basket with tree-rope (*porōret*).

Religion.

The Kony believe in a god called "*Asis*" (the sun), who is the creator and supreme god. (When used with the definite article, *Asista*, the *sun* is always understood, e.g. *par-iñg' Asis* (may God kill thee); *par-iñg' Asista* (may the sun kill thee).) They also believe in two sorts of evil spirit: *oinotet*, pl. *oiik* (corresponding to the Nandi *oik* and *musambranik*), and *kimagenjāt*, pl. *kimagenjōk* (which seems to be the equivalent of the Nandi one-legged devil *Chemosit*). They call the spirits of the dead "*oik*." The thunder is said to be very bad: "*Ilet nge miat mīsin.*"

Miscellaneous.

Grass.—Grass, being the food of cattle, is held more or less sacred by the Kony, as by most other pastoral tribes. The Kony do not like being hit with grass, for fear they should waste away and die.

A man who is being accused will tear up a handful of grass to prove that he is speaking the truth.

Spitting.—Spitting brings luck and averts evil. When men greet one another, they spit on their hands and then shake hands, as do the Nandi.

Salutations.—When men meet, one says "*Sopa.*" and the other answers "*Epa.*"[1] When women meet, the elder says "*Tākwenya.*" and the other answers "*Igo.*" On parting, people say "*Chamet ap kē*" (health) or "*Saisere.*"

19.—KONY TREE- AND PLANT-NAMES.

Kony.	Nandi.	Botanical Name.
	(1) *Coniferæ.*	
Sapta (saptet)	Tarakwet	*Podocarpus falcata.*
Tarakion (tarakiondet) .. .	Tarakwet	*Juniperus procera.*
	(2) *Rubiaceæ.*	
Kimoluo (kimoluet)	Kimoluet	*Vangueria edulis.*
	(3) *Euphorbiaceæ.*	
Kures (kuresiet)	Kuresiet	*Euphorbia candelabrum.*
Imanua (imanuet)	Imanyat	*Ricinus communis.*
	(4) *Leguminosæ.*	
Senetwo (senetwet)	Senetwet	*Cassia didymobotrya.*
Kaat (katet)	Katet ..	*Acacia robusta.*
Kakorua (kakoruet)	Kakoruet	*Erythrina tomentosa.*

[1] From Galla *eba* (blessing).

Kony Tree- and Plant-Names—contd

Kony.	Nandi.	Botanical Name.
	(5) *Oleaceæ.*	
Korosion (korosiondet) .. .	Emdit ..	*Olea chrysophylla.*
	(6) *Apocynaceæ.*	
Legetetuo (legetetuet)	.. Legetetuet ..	*Carissa edulis.*
Kimñgerigich (kimñgerigichet)..	. Ñgiñgichet ..	*Landolphia* sp.
Ñgwan (ñgwanet)	. Keliot	*Acocanthera* sp.
	(7) *Palmæ.*	
Sosion (sosiondet)	.. Sosiot	*Phœnix reclinata.*
	(8) *Rosaceæ.*	
Momorion (momoriondet) ..	.. } Momoniot ..	*Rubus rigidus.*
Kipkeres (kipkeresiet)	.. }	
	(9) *Urticaceæ.*	
Mokoiyuo (mokoiyuet)	.. Mokoiyuet ..	*Ficus sycomorus.*
Sinende (sinendet)	. Smendet ..	*Ficus Hochstetteri.*
Nyarbotuo (nyarbotuet) ..	.	*Ficus* sp. (of hills).
Kâputian (kâputiandet) ..	..	*Ficus* sp. (of plains).
	(10) *Scitamineæ.*	
Sasuruo (sasuruet)	.. Sasuriet ..	*Musa ensete.*
	(11) *Liliaceæ.*	
Tangarotuo (tangarotuet) ..	.. Tangarotuet .	*Aloe Schweinfurthii.*
	(12) *Solanaceæ.*	
Lapotuo (lapotuet) . ..	. Lapotuet ..	*Solanum campylanthum.*
Tumato (tumatet)	. Tumatet ..	*Nicotiana tabacum.*
	(13) *Crassulaceæ.*	
Kuseruo (kuseruet)	.. Kuseruet ..	*Sedum* sp.
	(14) *Myrsinaceæ.*	
Uswo (uswet)	.. Usuet ..	*Ardisia* sp.
	(15) *Tiliaceæ.*	
Noñgiruo (noñgiruet)	.. Nokiruet ..	*Grewia* sp.

Names of other trees are :—

Cheptuiya (Cheptuiyat) (red almond).
Kemelio (kemeliet) (*Calodendron capense*).
Ol-mororoi.
Logotunuo (logotunuet) used for spear-shafts.
Kwarion (kwariondet).
Mosto (mostet).
Chemñgororion (chemñgororiondet).
Bukwo (bukwet).
Tendurio (tenduriet).
Mtuñgwo (mtuñgwet).
Musiembu (musiembut).
Ndilia (ndiliet).
Tegeldo (tegeldet).
Mindililuo (mindililuet).
Kwerion (kweriondet).
Taposwo (taposwet).
Ñgotutio (ñgotutiet).
Cheptongo (cheptonget).
Seina (seinet).

———

Kirongurio (kironguriet), moss.

20.—The Kony Account of the Sirikwa.

Kimi keny mgoriondet ap 'l-Kony, kainennyi ko Kieptek. ko
There-was of old the-chief of the-Kony, name-his and-it-is Cheptek, and he-is-

orkōandet nye korom. Ko'tuiyo inendet ak orkōandet ap
the-medicine-man which-is powerful (fierce). And-he-meets he and the-medicine-man of

Ipkôpek si kopar Sirikwek. che ko piiko em
the-Uasin-Gīshu-Masae, that they-may-kill the-Sirikwa, who-are the-people (a-people) among

Ipkôpek Ko'ye sagetiek che koromech, ko'kôch
the-Uasin-Gīshu-Masae. And-they-make the-medicines which-are powerful, and-they-give-to

Siriwek kopek che chañg. komwe alak che koñget,
the-Sirikwa, and-they-die which-are many, and-they-run-away others who and-they-remain,

kokwer koret nepo murot, ko'bur ulin akut kuni
and-they-reach the-country which is of south, and-they-dwell there till now.

[Of old there was a chief of the Kony called Kieptek (mod. Nandi, Cheptek), who was a powerful medicine-man. He met the chief medicine-man of the Uasin-Gīshu Masae, that they might kill the Sirikwa, and they made a powerful medicine, and gave it to the Sirikwa, so that many died. And those who were left ran away and reached the south country, where they live to this day.[1]]

This story confirms the statement in H.N., p. 3, that "to the present day, the Nandi speak of the Masai living near Ikoma in German East Africa [Tanganyika Territory] as the Sirikwa. It is therefore possible that the Sirikwa were only a branch of the Masai."

[1] My informant, Namakota arap Tirim, of the Kiporitiek division, chief Arap Kieptek, said that the south country was German East Africa (Jiramani). Arap Kieptek, his chief, is a son of the Kieptek of the story.

21.—Kony Tribe Names.

The chief tribes of which the Kony know are called as follows:—

Kony.	*Tribe.*
Kôkôyin (Kôkôyindet). pl. Kôkoii (Kôkoiiek) ..	AKikuyu.
Usin (Usindet). pl. Us (Usyek)	BaGisu.
Toskīn (Toskīndet). pl. Toske (Toskek)	BaKidi.
Keyin (Keyindet). pl. Keyu (Keyek)	Elgeyo.
Musunguin (Musunguindet). pl. Musungu (Musunguk)	European.
Lemin (Lemindet). pl. Lem (Lemek)	All Kavirondo.
Koñgin (Koñgindet). pl. 'l-Kony (Konjek)	Kony.
Mâsaein (Mâsaeindet). pl. Mâsaea (Mâsaeek) ..	Mâsae.
Ipkôpyon (Ipkôpyondet). pl. Ipkôp (Ipkôpek) ..	Uasin-Gīshu-Mâsae.
Sabiñgin (Sabiñgindet). pl. Sabiny (Sabinjek) ..	Kamechak or Sapei.
Magandain (Magandaïndet). pl. Maganda (Magandek)	BaGanda.
Kitôgin (Kitôgindet). pl. Kitôch (Kitōchek) ..	AwaKusu or Kitosh (northern).
Oloisiumbin (Oloisiumbindet). pl. Oloisiumba (Oloisiumbek)	WaSwahili.

Part II.

22.—Additions to Nandi Folk-lore.

The following stories were collected in the Masop division of Nandi in 1926. Nos. (1) and (4) were related by Chesiñgañga arap Kipsambai, and the rest by Olmonai arap Kàpchemokorin, except No. (7), which is from Songoko arap Kimereng, an Elgeyo of the Kipkoiimet age (67 to 82 years). The two former belong to the Kâplelach age (about 50).

(1) Taunenet ap puch.

The-beginning of people.

Ki iñguny ak parak, koki akenge, tun, kwaita
They-were below (ground), and above (sky), and-they-were one, presently and-he-prepares

Muungu parak ak iñguny, kwa parak, kotepi iñgunyut, kwaita
God sky and ground, and-it-goes sky, and-it-stays the-ground, and-he-prepares

lakwet ne miniñg, ñgetet, ko'le, "Tepi uli!" Tun, kocheñg,
the-child who-is small, the-boy, and-he-says, "Stay here!" Presently, and-he-searches,

ko'lechi, "Amoche acheñgun chiit' ake, n'otepchi towae."
and-he-says-to, I-want that-I-seek-for-you the-person other, whom-ye-stay-with together."

Kocheñgji, kopar chiit' kai, si kocher karas, kwaita.
And-he-seeks-for, and-he-kills the-man that, that he-may-take-out rib and-he-prepares

koiok chepto. koiet. kosich lakok. ko'lechi Muungu.
and-there-becomes the-girl. and-she-grows and-she-gets the-children. and-he-says-to God.

"Kaïa-si isich lakwet. amu amwaun?" Ko'lechi chiito.
Why and-you-get the-child. for I-tell-you?" And-he-says-to the-man.

"Kimaa'ngen. a'le. iete kesich lakwet." Ko'lechi Muungu.
"Not-was-I-knowing. I-say. you-forbid that-we-get the-child." And-he-says-to God.

"Kaakonin myat ak sapon." Ko'lechi. "Opa!"
"I-have-given-you death and health." And-he-says-to. "Go-ye!"

[The earth and the sky were once one, till God prepared them, and put the sky above, and left the earth below. And God also made a small man-child, to whom he said, "Stay here!" And presently God began to search, and he said, "I want to look for someone to live with you." And he killed that man, and took out one of his ribs, from which he made a girl, who grew large and bore children. And God said, "Why have you borne children?" And the man answered, "I did not know that you forbade us to have children." And God said, "I have given you death and health," and he said, "Go!"]

(2) Ñgalek ap tukuk 'lo.
The-news of the-things six.

Keny. koki piik 'lo. erenet ak pēliot ak ilet ak
Of-old, and-there-were the-people six. the-snake and the-elephant and the-thunder and

pêk añg māt ak chiito. Nandiindet, Koñgetio. koset.
the-waters and the-fire and the man. the-Nandi. And-they-arise-together and-they-raid.

añgnyeitita kopar tuka, kopwa piik ap
when-it-is-reached-to and-they-kill the-oxen. and-they-come the-people of

kopo tuka, koiete tukchwak. ko'lechike
the-house-of (the-owners) the-oxen. and-they-forbid the-oxen-their. and-they-say-to-themselves-

piichu 'lo. "Kioie ne? Kamach korepenech tuka." Ko'le
people-these six. "We-do what? They-wanted to-seize-from-us the-oxen." And-he-says

pēliot. "Osisie si apar." Kopwa piik.
the-elephant. "Be-ye-silent-together that I-may-kill." And-they-come the-people,

koñget pēliot. kopar piichoto tukul, komwe piik.
and-he-rises the-elephant. and-he-kills. people-those-very all and-they-flee the-people.

Kepwa. añgeit oret. ke'lechike. "Korom pēliot."
And-they-come. when-they-reach the-road. they-say-to-themselves. "Fierce (is) the-elephant."

Ko'le erenet. "A'ngen kioitoii." Kounyge eñg susuek oriit.
And-he-says the-snake. "I-know we-are-doing." And-he-hides himself in the-grasses inside

konyo pēliot. komwog. ēut. kome pēliot.
and-he-comes the-elephant. and-he-shoots (bites) the-arm (trunk) and-he-dies the-elephant.

Ko'lechike piik. "Korom erenet." Ka tun.
And-they-say-to-themselves. the-people. "Fierce (is) the-snake." It-was presently,

ipkokweri tuka kitio. ko'le māt. "A'ngen kioitoii erenet."
go-and-they-drive the-cattle alone. and-he-says the-fire. "I-know we-are-doing the-snake."

Kepa. añgeit oret. ko imen. ko'le "O'lal
They-went. when-they-reach the-road. and-it-is evening (dark), and-he-says. "Light-ye

māt." Ke'lechi erenet. "Lany ketit. putuech kwenik." Kolany
the-fire." He-said-to the-snake. "Climb the-tree. pick-for-us the-firewood." And-he-climbs

erenet ketit. ko'lal māt eñg getit kel. kopel erenet eñg
the-snake the-tree and-they-light the-fire in the-tree foot. and-they-burn the-snake in

getit parak. kome erenet. Ko'le. "Korom māt." Ka
the-tree above. and-he-dies the-snake And-they-say "Fierce (is) the-fire." It-was

tun. kokweri tuka. ko'le pêk. "A'ngen kioitoii māt.
presently and-they-drive the-oxen. and-they-say the-waters. "I-know we-are-doing the-fire

si kome." Kepa. añgeit oret. kilal māt.
that he-may-die." They-went. when-they-reach the-road. it-is-lit the-fire.

kotokosta pêk ye ile turur. si koc horuke.
and-they-climb-thither the-waters. [place] which is-said above. that they-may-descend.

koka'lal māt. kopar māt. kome. Ke'le. "Koromen
they-have-lit the-fire. and-he-kills the-fire. and-it-dies. They-said. "Fierce (are)

pêchu misiñg." Ka tun. koipene tuka. ko'le piik
waters-these very." It-was presently. and-they-take-to the-oxen. and-they-say the-people

oieñg. "Kiingen kii ne kioitoii." Kepa. añgeit tuluet
two. "We-know thing which we-are-doing." They-went. when-they-reach the-hill

ne oo. ketokosta oieñg. ko'len kopa pêk tuluet parak.
which-is big they-climbed-thither two. and-they-think they-go the-waters the-hill up.

komako'much ko'toch tuluannoto ne oo. kowek pêk. kopa
not-and-they-can they-go-up hill-that-very which-is big they-return the-waters. they-go

piik oieñg. ilet ak chiito. icheke kakopek chun tukul,
the people two the-thunder and the-man themselves. they-are-finished these all

ipkoñgetu oieñg icheke. Kopwa ka. inyokotepi.
go-and-they-remain-over two by-themselves. And-they-go home. come-and-they-stay

akoi tun koruio. koru chiito. ko'ro ilet chiito
presently they-sleep-together. he-sleeps the-man. and-he-sees the-thunder the-man

korue kowekse chiito kowendi komasi ak komasin. ko'le ilet.
he-sleeps. he-turns-himself the-man he-goes side-this and side-that. and-he-says the-thunder.

"I ne inye? Ngu to ipora." ako chiichito kokwai kôtiek.
"You-are what you? Perhaps you-kill-me." but man-this-very he-has-made the-arrows.

ko'ro ilet. ko'le. "Anoch' amwe." komwe ilet.
and-he-sees the-thunder. and-he-says "I-want that-I-flee." and-he-flees the-thunder.

kwa parak, koñget chiito kitio, kopunji tuka
and-he-goes sky, and-there-remains the-man only, they-pass-to-him (belong-to) the-oxen

ineke akoi ko ra.
himself till now.

[Of old, there were six people, a snake, an elephant, the thunder, water, fire, and a man, a Nandi. And they arose, and went on a raid; and when they reached the place, they killed some cattle. And when they had killed the cattle, the owners of the cattle came to stop their cattle, and these six people said to themselves, "What shall we do? These people want to seize the cattle from us." And the elephant said, "Be silent, that I may kill them!" And the people came, and the elephant got up, and he made to kill the people, and the people fled. And when they reached the road, the five people said to themselves, "The elephant is fierce." And the snake said, "I know what we can do to him." And he hid himself in the grass, and when the elephant came, he bit him in the trunk, and the elephant died. And they said to themselves, "The snake is fierce." Then they drove the cattle, and Fire said, "I know what we can do to the snake," and they went till they reached a road, and it was getting dark, and Fire said, "Light a fire," and he said to the snake, "Climb that tree, and get us some firewood." And the snake climbed the tree, and they lit a fire at its foot, and they burnt the snake in the tree, so that he died. And they said, "Fire is fierce." And they drove on the cattle. Presently Water said, "I know what we can do to Fire, so that he dies." And when they reached a road, a fire was lit, and Water climbed up above that he might come down, and when the fire was burning, he put it out, and the fire died. And they said, "Water is fierce." And they took the cattle, and two of the people said, "We know what to do." And they went on, and reached a big hill, and the two people climbed up it, and Water thought he could, but could not climb that big hill, so he turned back. And those two people went on, the thunder and the man, by themselves, for the others were all finished with, and they alone remained. And they went home, and they stayed together for a time, and the man slept, and the thunder watched him as he slept, and the man turned himself in his sleep from one side to the other, and the thunder said, "What are you? Perhaps you will kill me." And the man made arrows, and the thunder saw them, and he said, "I want to run away." So he ran away, and went up to the sky, and the man was left by himself, and he took possession of the cattle from that day to this.]

(3) Ñgalek ap Kimoiik.

The-news of the-porridges.

Kikwam piik ap keny pusiek che tuonen che makwany.
They-ate the-people of old the-meal which-is raw which-is not-they-cook.

ki'tuio ok pêk kitio, ma'nde māt. Ako chiit' ake
they-mixed with the-waters only, not-they-put-on the-fire. But the-man other

ko'tun korusiek oieñg. komakoiī ake. koiī ake: ko'le
and-he-marries the-wives two. not-and-she-bears other. and-she-bears other and-she-says

ake. "Aoie ne ne maasich lakwet?" Ko'le. "Ingotepi, si
other "I-do what who not-I-bear the child?" And she says. "Let me wait that

apar ni ne koiī." si koiek nenyi lakwet? Ko'le. "Ara.
I may kill this who bears" that it may become hers the child? And she says. "Well.

'a'kôchini ne. si kome?" Ko'ruoch. kosich ñgonmonennyi.
I-give-to what that she-may-die?" And-she-thinks and-she-gets the-sense-her

kosich ne kwonye kimnyiet. kokwany kimnyiet. añgnyekwany.
and-she-gets which is she-cooks the-porridge. and-she-cooks the-porridge. when-she-cooked.

ko'kôch ne koiī. ko'lech'. "Am. ako ipiiye misiñg."
and-she-gives who and-she-bears. and-she-says-to. "Eat but you-satisfy-yourself very."

Kwomisio. komakoru. korīp nin ne kiam kimnyiet
And-she-eats. not-and-she-sleeps. and-she-guards (watches) that-one who she-ate the-porridge.

ko'nyalil komakome nin: ko'ro piik tukul nm.
and-she-has-trouble. not-and-she-dies that-one; and-they-see the-people all that-one

komame. kosich piik tukul ñgonmotet. ko'le. "Kokakaraian
not-and-she-dies. and-they-get the-people all the-sense. and-they-say. "It-was-good

kimnyiet ne kakikwany." Ko'le. "Kokaki'nyalil che ome
the porridge which-is it-was-cooked." And-they say. "There-was-trouble-for who ate

pusiek che tuonen." kwam piik tukul kimnyiet akoi ko ra.
the meal which is raw." and-they-eat the-people all the-porridge till-now.

[The people of old ate raw meal which was not cooked, for they mixed it with water only, and did not put it on the fire. But one man married two wives, one of whom bore a child, the other did not. And the other said, "What shall I do, who have not borne a child?" And she said, "I will wait till I can kill her who has a child," that the child might become hers. And she said, "What can I give her, so that she may die?" So she thought, and she found cunning, by which she might cook porridge; so she cooked porridge, and when it was cooked, she gave it to the woman who had a child, and said, "Eat, and be filled." And she ate. And the other woman did not sleep, but she watched the one who was eating the porridge, and was troubled because she did not die. And all the people saw that she did not die, and they became wise, and said, "Cooked porridge is good" and they said also, "There is trouble for those who eat raw meal." And to this day everyone eats porridge.]

(4) Ñgalak ap orkoiyot nepo korok
The-news of the-medicine-man who-is-of first.

Kimi ole-kinye korket netnasich lakwa. Katukul wendi
There-was once-upon-a-time the-woman who-not-she gets child. Always she-goes

ainonni. kosile pêk: konyoru imdaret ne tinye lakwet.
this-river and-she-draws the-waters; and-she-meets the-python which it-has the-child.

Ko'le korket. "Ipaipu lakwenñguñg" Ipkoip.
And-she-says the-woman. "Go-and-I-bring-hither the-child-your." Go-and-she-takes

ko'nde teget. konyo ka. kopai. koiek koi.
and-she-puts breast. and-she-comes home. and-she-nurses. and-it-becomes tall

Kopetio pêk tukul eñg ainōsiek tukul. amu makorobon.
And-they-are-lost-together the-waters all in the-rivers all for not-and-it-rains.

Ko'ake tuka lakwet. ko'lechi kwan. "Nyo. kephe.
And-he-herds the-cattle the-child and-he-says-to his-father. "Come. let-us-go.

ipketepe yuto ulin." Kopa. iit ulindo. ko'ket
go-and-we-stay-at here there." And-they-go. it-is-reached there. and-they-strangle

tuka lakōk alak. kokwer iñgunyut lakwanni. kopwa
the-cattle the-children others. and-he-strikes-with-stick the-ground child-this. and-they-come

pêk. ko'e tuka chechiget, mako'e tuka chepo
the-waters. and-they-drink the-cattle his not-and-they-drink the-cattle which-are-of

piik alak. Konam lakwet chepto. ko'lechi kwan.
the-people others. And-he-takes the-child the-girl. and-he-says-to his-father.

"Yatita." Akiyatita: chepto kokeny koyatita. kotech
"Circumcise (me)." He-is-circumcised: the-girl also and-she-is-circumcised. and-he-builds

kot. kekerchi kot: tun. kaketech pēut. arawet
the-hut. and-it-is-shut-to (them) the-hut; presently. it-was-built the-cattle-fold. the-month

akenge. keyat. ko'lechi piik. "Oieny tuka añgwan. kirkit ak
one. it-is-opened. and-he-says-to the-people. "Slay-ye the-cows four. the-bull and

akwet añg mengit. ak ocheru mwaita nepo tan'gīna.
the-he-goat and the-ram. and take-ye-out the-fat which-is-of cow's-udder.

oisteke amañg." Koisteke piik. komañg.
remove-ye-yourselves. I-go-out." And-they-remove-themselves the-people. and-he-goes-out.

ko'ro chiito kokeny. kome: ko'ro têta kokeny. kome:
and-he-sees the-man afterwards. and-he-dies; and-he-sees the-cow afterwards. and-it-dies;

kotiech kirkit ne kakeeny: kotiech akwet ne
and-he-treads the-bull which-is it-was-slaughtered; and-he-treads the-he-goat which-is

kakeeny; kotiech mengit ne kakeeny. ko'le. "Ocheru
it-was-slaughtered; he-treads the-ram which-is it-was-slaughtered. and-he-says. "Take-ye-out

mwait' ap tan'gīna, o'ila." Ki'il. koiek orkoiyot
the-fat of cow's-udder. oil ye-me." He-is-oiled. and-he-becomes the-medicine-man

akoi ko ra.
till-now.

[There was once a woman who had no child. And she went every day to the river to draw water: and one day she saw a python who had a child, and she said, "I will take your child." And she took the child and nursed it, and it grew tall. Presently there was no water in all the rivers, because it did not rain, and the child, who herded the cattle, said to his father, "Come, let us go and live over there." So they went over there: and other children killed their cattle. But this child struck the ground with a stick and water came, so that his cattle drank: but other people's cattle did not drink. And he took a girl, and said to his father, "Circumcise me." And he was circumcised, and the girl also was circumcised. And he built a house, and they were shut in it. And after a month he built a cattle-fold. And he said to the people, "Kill four cows, kill a bull, and a he-goat, and a ram, and take out the butter-fat, and remove yourselves, that I may come out." So they did this, and he came out: and he looked at a man, and the man died: and he looked at an ox, and it died. And he trampled on the slaughtered bull, and he-goat, and ram, and said, "Take away the fat, and oil me." And they oiled him, and he became a medicine-man from that day till now.]

(4) Atimdiot ap Kēwa.
The-story of Kewa

Koparke piik ap keny alak eñg ulin Ipuap añg
And-they-fight the-people of old others at there Uasin-Gīshu-Masae and

Mâsae, akoi keoon Ipuap, ko'le, "Kaoonech
'L-Aikipyak Mâsae, until they-are-expelled Uasin-Gīshu, and-they-say, "They-have-expelled-us

Mâsae, ara, emuro." Ko'le Mâsaeek, "Makikose
'L-Aikipyak, well-then, 'pax.'" And-they-say the-'L-Aikipyak, "Not-we-understand

emuro." Ko'lechi Ipuapek "Okose ne?" Ko'le
'pax.'" And-they-say-to the-Uasin-Gīshu "You-understand what?" And-they-say

Mâsae, "Kimoche ipokwe kimitek ko'nyi lalet ak
'L-Aikipyak, "We-want go-and-you-pick-up the-fleas and-they-fill the-cupping-horn and

pêk ap koñg." Ko'le Ipuapek, "Si kesich ono pêk
the-waters of eye." And-they-say the-Uasin-Gīshu, "That we-get where the-waters

ap koñg ak kimitek?" Ko'le lakwet ne kilen Kēwa.
of eye and the-fleas?" And-he-says the-child who-is he-is-said (called) Kewa.

"Mootopoti. A'ngen kekicheñge. Onam muito, oip
"Tremble-ye-not-with fear. I-know it-is-sought-for. Take-ye the ox-hide, take-ye (to)

kot ne kikeue. Mutai korirun ipoipu, si
the-house which-is it-has-been-moved. To-morrow morning go-and-you-bring that

kepwa lakōk tukul, inyokecheñg kimitek, takiiro somok,
they-come the-children all come-and-they-seek the-fleas, still-they-have-seen three,

kekwe. kiinde lalet. kitut
they-have-picked-them-up they-are-put-in the cupping-horn. they-are-taken-out

sarurik ap tuka. kepuruch tukul ak kimitek.
the-tails (the-hairs-of-the-tails) of the-oxen they-are-mixed all with the-fleas,

ipkesil pêk ap ainonnin. kiinde lalet. oip
go-and-they-are-drawn the-waters of river-that they-are-put the-cupping-horn. take-ye

ipo'porchi Mâsaeek." Inyokwaita 'man piik che echen.
go-and-ye-show-to the-'L-Aikipyak." And-they-prepare truly the-people who-are big

keipchi Masaeek. ko'ro Masaeek. kocham iman.
they-took-to the-'L-Aikipyak. and-they-see the-'L-Aikipyak. and-they-agree truly.

ko'lech'. "Opa. kokeny onam eito ne lēl 'kut ko lēlach
and-they-say-to. "Go-ye again take-ye the-bullock which is white. even they-are white

ñgatatek. añg ne tui 'kut ko tuen ñgatatek. ak kweyot ne
the-dungs. and which is black even they-are black the-dungs. and the-sandal which-is

tinye kororik komasi ok komasin." Kepwa. takiit. kecheñgat
it-has the-hairs side-this and side-that." They-came. again-they-reach. they-walked-seeking

Kēwa. ko'le Kēwa. "Mapile a'ngen kii oai." Ko'le. "Onam
Kewa. and-he-says Kewa. "No-matter I know thing you-do." And-he-says. "Take-ye

eito ne tui. oñga nesek. opuruch ok pêk. si
the-bullock which is black. grind-ye the-charcoal. mix-ye with the-waters. that

ko'e. Onam kokeny eito ne lēl. oke cheko korchu
it-may-drink. Take-ye again the-bullock which is white. milk-ye the-milks huts-these

tukul. inyokiko'e eito ne lēl. ako oker ingomakwam
all. come-and-it-has-drunk the-bullock which-is white. but shut-ye if-not-it-eats

susuek. mutai korirun oyat. okweri. Taiitio onam sigiriet.
the-grasses. to-morrow morning unloose-ye drive-ye (it). Finally. take-ye the-donkey.

otil īitit. ak oma kopir asis. tun oipchi
Cut-ye the-ear. and ye-fry-in-the-sun that-it-may-strike sun. presently take-ye-to

tukul." Kwaita iman kekweri. añgnyeit kâpkiruog.
all." And-they-prepare truly. they-drove. when-they-reach place-of-council.

kotonon eiik. kokaiyuai. "Purtututu" ne lēl ko
and-they-stand the-bullocks. and-they-evacuate. "Purtututu." which-is white they-are

lēlach. ne tui ko tuen: ko'kôch īitit ap sigiriet kopītat
white. which-is black they-are black; and-they-give the-ear of the-donkey it-is-grown

komasi ak komasin. Ko'ro Mâsaeek. ko'le. "Iman tinye
side-this and side-that. And-they-see the-'L-Aikipyak and-they-say. "Truly they-have

piochu ñgomnotet ne oo kut." Ko'homnyo akoi ko ra.
people-these the-sense which-is big very." And-they-agree till now.

[Other people of old, the Uasin-Gīshu Mâsae, fought with the 'L-Aikipyak, who drove out the Uasin-Gīshu, and they said, "The 'L-Aikipyak have driven us out, let us say 'peace.'" And the 'L-Aikipyak said, "We do not understand 'peace.'" So the Uasin-Gīshu said, "What do you understand?" And the 'L-Aikipyak said, "We want you to fill a cupping-horn with fleas and tears." And the Uasin-Gīshu said, "Where can we get tears and fleas?" And a child, called Kewa, said, "Do not be afraid, I know what is wanted. Take an ox-hide, and put it in a house from which the people are gone, and bring all the children in the morning to look for fleas, and when you see three, take them up, put them in the horn, then take some hairs of the hide, and mix the hairs and the fleas together. Then draw water from the river, and put it in the horn: you may then take it and show it to the 'L-Aikipyak." So the warriors did this, and they took the horn to the 'L-Aikipyak, and when the 'L-Aikipyak saw it, they were very pleased, and they said, "Go again, and take a white bullock whose dung is white, and a black bullock whose dung is black: find also a sandal which has hairs on both sides." So they went, and sought Kewa, who said, "This is nothing: I know what you must do." And he said, "Take a black bullock, and grind some charcoal, and mix it with water, and give it to the bullock to drink. Then take a white bullock, and milk all the cows in these houses, and let the bullock drink the milk: but see that it does not eat grass. In the morning, let it out, and drive it. Finally, take a donkey, and cut off one of its ears, and put it out in the sun to dry. Presently, take all these things to the 'L-Aikipyak." So they did these things, and when they reached the council-place of the 'L-Aikipyak, the bullocks stopped, and passed dung, the white bullock white dung, and the black one black dung: and they gave the 'L-Aikipyak the donkey's ear which had hair growing on both sides. And when the 'L-Aikipyak saw it, they said, "Truly these people are very clever." And they have been friendly ever since."]

(6) Ñgalek chepo nyokoriet ap Nandi.
The-news which-is-of the-fear of Nandi.

Ingopwa punik si kopar tuka chepo Nandi,
If (When)-they-come the-enemies that they-may-kill the-cattle which-are-of Nandi,

komakoparke, ko'yue. Kokeny, kopa Mâsaeek kokweri
not-and-they-fight, and-they-fear. Again, and-they go the-Uasin-Gīshu and-they-drive

tuka, añgnyekait loo, koru Nandi patai. Konam
the-cattle when-they-have-reached far, and-they-lie Nandi back (on-the-back). And-they-take

kwanget, si komwog, kopa Mâsaeek, koityi loo,
the-bow, that they-may-shoot and-they-go the Uasin-Gīshu, and-they-reach-to far,

komwogto kôtet, komakonam kôtet ēut, ko'len
and-they-shoot-thither the-arrow, not-and-they-take the-arrow the-hand, and-they-say

icheket. "Kiporike añg jotok Mâsaeek che kokakopa ak
they. "We-fight with these-very Uasin-Gīshu who-are they-have-gone with

tuka." Kuruto eñg iñguny Nandiek-kai, ki periperin kut
the-cattle." And-they-travel on below (ground) the-Nandi-those, they-are foolish very

piichoto. koki Juma; añgnyanerio Sawe.
people-those. they-were the-Juma-age; when-they-grow-fat (big) the-Sawe-age,

koñgomenitu. Tun, kopôk Mâsaeek. koparke ak
and-they-clever-become. Presently, and-they come the-Uasin-Gīshu. and-they-fight with

Sawe misiñg. komakotokokweri tuka. Koietke kut
the-Sawe very not-and-again-they-drive the-called. And-they-enlarge-themselves very

Sawe. 'kut komwe Mâsaeek, koweike puch, kiingopwone,
Sawe. till and-they-flee the-Uasin-Gīshu, and-they-return empty if-they-were-coming,

ko'len. "Takoperiperin piik tukul kuu Juma."
they-say "Still-and-are-foolish ('Would-they-were-foolish) the-people all like the-Juma-age."

[When enemies came to kill the cattle of the Nandi, the Nandi did not fight with them, they were afraid. The Mâsae came and took their cattle, and when they had got a long way away, the Nandi lay on their backs, and took their bows to shoot. And the Mâsae were a long way away, and they shot at them, but they did not take their arrows in their hands. And they said, "We will fight those Mâsae who have gone with our cattle." And those Nandi travelled in the grass, and they were very foolish, they were of the Juma age: and when the Sawe age grew big, they became wise. Presently the Mâsae came again, and they fought hard with the Sawe, and did not again drive off the cattle of the Nandi. And the Sawe enlarged themselves much, so that the Mâsae fled, and they returned empty, and if they wanted to come, they said, "Would that all people were as foolish as the Juma."]

(7) Ñgalek ap Keyu.
The news of Elgeyo.

Kiñget Keyu ole-kinye, koset, 'ngomi oret,
They-arose Elgeyo of-old and-they-said, it (when) they-are the-road,

ko'lechike. "Onam chiit' akenge, kiinde koioñguech
and-they-say-to-themselves. 'Take-ye the-man one, we put that-he-may-see-coming-for-us

punik." Kenam. ne kilen Arap Kimuron, kwa.
the-enemies." They-took who-is he-is-said (called) son-of Kimuron, and-he-goes.

'ngoititа. Mâsaeek kokaeny eito. nepo ekor,
if (when) he-reaches the-Masae and-they-kill the-bullock which-is-of slaughter-house,

ko'ro pendo. n' akwai misiñg. ko'le. "Oputua, were, si
and-he-sees the-meat which-is fat very, and-he-says. 'Give-ye-me, friend, that

amwaun luget." Komi mama: keputi pendo. kwam.
I-tell-you the-raid." And-there-is the-uncle: it-is-given the-meat. and-he-eats,

komwaita 'man luget. Kopa Mâsaeek ipkopar Keyechun,
and-he-tells-thither truly the-raid. And-they-go the-Mâsae go-and-they-kill Elgeyo-those,

kotako'len. "Kikeni Arap Kimuron. koka'kaa
and-they-still-are-thinking "He-has-deceived Son-of Kimuron. he-has-delayed

kakomwait'ech." Koparke iman. kepar Keyek, ketar.
he-has-told-thither-of-us." And-they-fight truly. and-they-kill the-Elgeyo and-they-finish.

koñget 'lo. ko'le. "Kiuhon?" Ki'le akenge. "Ingenemu
and-there-are-left six. and-they-say. "What-shall-we-do?" He-said one. "Let-us-take-out

akutanik chepo piichun che kakepar." Kinim.
the-entrails which-are-of people-these who-are they-are-killed." They-took-out.

koruio iñguny. kotukeke. kochun
and-they-sleep-together below (the ground). and-they-cover-themselves and-they-come

Mâsaeek. ko'ro korutos. korori ake. ko'le
the-Mâsae and-they-see they-are-sleeping-together and-he-laughs one. and-he-says

Mâsaeindet. "Ngap kikakororon kelek chiichi." Komwoike.
the-Mâsae "When they-were-beautiful the-teeth man-this." And-they-say-to-themselves.

ko'le. "Heh! Kialue chêko chepo tênnyō. ak anye
and-they-say. "O! Was-I-drinking the-milks which-are-of the-cow-my. and I-chew

motororek ap koma." Kepar chiichoto. ko'le ake.
the-eleusine-corn of loft." They-killed man-this-very. and he-says other.

"Ingemwaite." Kepar kokeny. Ko'le ake. "Ptue, were?"
"Let-us-tell-thither." They-killed again. And-he-says other. "Why, friend?"

Kepar kokeny, kepar tukul piik-kai 'lo. ko'len.
They-killed again. they-killed all the-people-those six. and-they-said.

"Kakeunyge ako kakomwait'ake kokeny." Kepa Mâsaeek
"We have hidden ourselves but he-has-become-saying-thither again." They-went the-Mâsae

ka. ipki'ro Arap Kimuron. ko'lechi. "Ui ka." Konam
home. go-and-they-see Son-of Kimuron. and-they-say-to. "Go home." And-he-takes

panyek. kwa ka. añgnyetakowendi. ko'ro imamet ne
the-meats. and-he-goes home. when-still-he-goes. and-he-sees the-uncle who-is

kokakepar. tako akutanik. ko'le. "Ptue, maaputun pendo
he-has-been-killed. still-there-are the-entrails. and-he-says. "Ptue, not-I-give-you the-meat

anyun. kaañgawendi irue oñg gurosiannu."[1] kwa ka. añg
now. when-I-was-going. yesterday at Euphorbia-tree-this." and-he-goes home; and

nin kokakome. ak ko'lechin "Maaputun pendo." Kwa ka.
that-one he-had-died. and he-said-to. "Not-I-give-you the-meat." And-he-goes home.

[1] *Euphorbia candelabrum.*

añgnyeitita ka. ko'lechi kamet. "Kaanyoru mama. korue.
when-he-reaches home. he-says-to his-mother. "I-have-met uncle. and-he-sleeps.

maaputyi pend' anyun."
not-I-gave-him the-meat now."

[Once upon a time, the Elgeyo arose, and went to raid: and when they were on the road, they said to one another, "Let us take one man who may spy upon the enemy for us." So one man was taken, and he was called Arap Kimuron. And he went, and when he reached the Mâsae, they had killed an ox from the slaughter-house, and he saw that the meat was fat, and he said, "Give me some, my friend, that I may tell you of the raid." And his uncle was there: and he was given meat, and he ate it, and he told them of the raid. And the Mâsae went to kill those Elgeyo, who were saying, "Arap Kimuron has deceived us, he has delayed, to tell about our raid." And they fought, and they killed the Elgeyo, they finished them so that there were only six left, and they said, "What are we to do?" And one said, "Let us take out the entrails of these people who have been killed." So they took out the entrails: and they lay on the ground, and covered themselves. Then the Mâsae came, and they saw that the people were asleep. But one Elgeyo laughed, and a Mâsae said, "This man had beautiful teeth." And they said to themselves, "O! I was drinking my cow's milk, and I am chewing *wimbi* from the loft." And they killed that man, and another said, "Let us tell them." And he was killed. And another said, "Why, friend?" and he was killed. And they were all killed, those six people who had thought "We have hidden ourselves, even if he has told about us." And the Mâsae went home, and they saw Arap Kimuron, and they told him to go home. So he took some meat and went. And while he was on his way, he saw his uncle who had been killed, and his entrails were still there. And he said to his uncle, "I will not give you any meat now, when I am on a journey, and you are asleep under a Euphorbia tree." And he went on his way; and that man to whom he said, "I will not give you meat," was dead. And when he got home, he said to his mother, "I have met uncle, and he was asleep, and I did not give him meat."]

(8) Ñgalek ap Chumbek.
The-news of the-Europeans.

Ingo takipwa Chumbek koronni nepo Nandi keny.
If (When) still-they-come the-Europeans country-this which-is-of Nandi of-old.

ko'le Nandiek. "Ne chu? Ne piichu?" Ko'le chiit'
and-they-say the-Nandi. "What these? What people these?" And-he-says the-man

akenge. "Korusio Chumbechuto. amu koratke. Kipore.
one. "Women European-these-very. for and-they-tie-themselves. We-kill.

Mapile chuto Chumbek. Kipore kokeny. mañgetu 'ngut
No-matter these-very the-Europeans. We-kill afterwards. not-there-remains even

akenge." Koparke. komwog Chumbek māt. komwe :
one." And-they-fight, and-they-fire the-Europeans the-fire (the-gun), and-they-flee

añgnyeit ka. koruio chiit' ake ak cheptannyi. korirun
when-they-reach home, and-he-slept-with the-man other with the-girl-his, morning

ko'lechi cheptannyi. "Apore Chumbek tukul, iionya misiñg, a
and-he-says-to the-girl-his, "I-kill the-Europeans all, you-see-me very, I-am

murenet." Taiitio kolapat kainnywa. konim loñget añg ñgotit
the-warrior." At last and-he-runs house-their and-he-takes the-shield and the-spear

ak rotuet, ko'lechi kamet. "Iionya. apore Chumbek misiñg,
and the-sword, and-he-says-to his-mother, "You-see-me, I-kill the-Europeans very,

'ngut komañgetu akenge." Kepa. takiitita ole mii
till not-and-there-remains one." They-went, again-it-is-reached where they-are

Chumbek. koparke. kokas māt. komwe chiit' konye,
the-Europeans, and-they-fight, and-they-hear the-fire (the-gun), and-he-flees the-man former,

ipkoru eñg dimdo. 'ngut kwam toiik. korue komast'
go-and-he-sleeps in the-forest, till they-eat (him) the-white ants, and-he-lies the-side

ake. ko'le. "Ako maatweku, amn kokasa Chumbek, si
other, and-he-says, "But not-I-speak, for and-they-hear-me the-Europeans that

komwoga." Ko'le chiit' ake. "Ongephe kemboi kesapchi Chumbek
they-kill-me." And-he-says the-man other, "Let-us-go night we-talk the-Europeans

che kakoruio. si kepar." Kopwa. 'ngoit
who-are they-have-slept-together that we-kill" And-they-come if (when) they-reach

komi asikarindet ne rīpe. kowach. koñget choronōk.
and-there-is the-soldier who-is he-guards, and-he-shouts, and-he-wakes the-friends-his,

koñgetio Chumbek tukul, komwog Chumbek misiñg,
and-they-arise-together the-Europeans all, and-they-shoot the-Europeans very,

komwe Nandiek-kai, ipko'le. "Ptu! koromen Chumbek,
and-they-flee the-Nandi-those, go-and-they-say, "Ptu! Fierce (are) the Europeans

tinye ñgomnotet ne oo. Ongeiyue misiñg."
they-have the-sense which-is big. Let-us-fear very."

[When the Europeans were still coming to this Nandi country, the Nandi said, "What are these? what sort of people are these?" And one man said, "They are women, these Europeans, because they tie themselves up with clothes. We will kill them. They are nothing. Presently we will kill them till there is not one left." And they fought, and the Europeans fired their guns, and the Nandi ran away; and one man, when he reached home, slept with his girl, and in the morning he said to his girl, "I am going to kill all the Europeans, you see me: I am a warrior." After a little he ran to their house, and took out his shield, and his spear, and his sword, and he said to his mother, "You see me, I am going to kill the

Europeans, till there is not one left." And they went, and when they reached the place where the Europeans were, they fought, and they heard the guns, and this man ran away and lay in the forest, till the white ants ate one of his sides, and he said, "I cannot call out, for the Europeans will hear me and shoot me." And another man said, "Let us go by night and stalk the Europeans when they are asleep, so that we can kill them." So they went, and when they reached the sentry, he called out, and roused his friends, and all the Europeans got up together, and they fired their guns, and those Nandi ran away: and they said, "The Europeans are fierce; they are not fools. Let us fear them greatly."]

Notes.

(1)—This story is simply a Nandi version of Gen. i, 6, 7, and ii, 18–22. Its provenance is doubtful. It probably comes from the same sources as the Mâsae traditions recorded by Merker,[1] which relate to the creation, deluge, etc., and which are almost certainly borrowed from Christian or Muhammadan sources; more probably the latter, since at least one rite introduced from Muhammadans—circumcision—is of great importance among the Nandi.

(2)—With this story may be compared the story entitled "*Tapand*[2] *ap Emet*" ("The Beginning of the World") in H.N., p. 111, in which there are three things—an elephant, the thunder, and a Dorōbo. The Dorōbo kills the elephant and the thunder goes up to the sky, leaving the Dorōbo in possession. The Mâsae myth, called *Naiteru-kop* ("The Beginner of the Earth") in H.M., p. 266, also starts with three things—a Dorōbo, an elephant, and a serpent.

(3)—*Cf.* the story in H.N., p. 120, called "*Kâpchemosīnik ap pāk*" ("The Story of the Eleusine Corn"), where some warriors, who found some eleusine corn, gave it to a woman to eat, so that they might know whether it was poisonous or not.

(4)—The word "*orkoiyot*" is now used to refer specially to medicine-men of the Talai clan, who are the medicine-men *par excellence*. Before the middle of the nineteenth century, however, it referred to any medicine-man. This story does not relate the origin of the Talai clan.

(5)—This story probably dates from the time when the Uasin-Gīshu Mâsae (Ipūap) occupied a strip of Eastern Nandi, about 1800–50. It may be connected with a tradition related to me by Arap Kipsambai, which accounts for the stone cairns (*orkwonuk*) in the districts of Lo-'l-meneñgai ("the-of-the-corpses") and 'Ndupeneti in East Nandi as being the graves of Uasin-Gīshu Mâsae who fought with other Mâsae. These other Mâsae are said to be the 'L-Aikipyak, or Laikipia.

[1] *Die Masai*, 1910, pp. 270 *sqq.*

[2] The word "*tapanda*" is now obsolete in the sense of "beginning," and "*tanaa*" has taken its place.

(6)—This story may be dated 1851–66, from the mention of the fighting age, Juma, being superseded by the Sawe age. Each of the Nandi circumcision ages holds power for about fifteen years once in every 100 years. In the last 200 years the Juma have been in power about the years 1851 and 1736. The former date suits best, because the Mâsae were at the height of their power from 1800 to 1850; in any case, their occupation of part of Nandi is not of ancient date, and by 1885, the Uasin-Gîshu Mâsae did not exist as a tribe.

(8)—This story is of quite recent origin: it doubtless refers to the first administration of Nandi by the British Government, which began in 1896 with a fortified post at a place called Kipture, some 4½ miles east of Kâpsabet, the present Government station.

MISCELLANEA.

PROCEEDINGS OF THE ROYAL ANTHROPOLOGICAL INSTITUTE, 1927.

January 25th, 1927.

Annual Meeting. (*See* p. 1.)

January 18th, 1927.

Ordinary Meeting at 52, Upper Bedford Place.

Mr. H. J. E. PEAKE, President, in the Chair.

The minutes of the last meeting were read and confirmed.

The election of the following as Ordinary Fellows of the Institute was announced: Rt. Hon. Lord Onslow, Captain G. M. Baker, Mr. E. G. Bowen, Mr. B. E. O'Brien, Mr. L. R. D. Broughton, Mr. E. R. Chadwick, Mr. H. R. M. Chamberlain, Mr. K. de B. Codrington, Mr. D. A. G. Dallas, Mr. H. C. Ellershaw, Mr. H. Dewar, Mr. E. B. Emley, Mr. G. E. Frost, Mr. W. J. Hemp, Mr. C. M. Holmes, Mr. A. H. Maddocks, Mr. J. B. Miller, Mr. G. D. Popplewell, Miss Hortense Powdermaker, Mr. B. W. Savory, Mr. J. Hunter Shaw, Mr. T. F. Smith, Mr. A. Thomson, Mr. C. B. G. Watson and Mr. A. R. Henry-Waetjin.

Mr. J. H. DRIBERG read his paper on "Further Little-known Tribes of the South-Eastern Sudan," illustrated by lantern slides.

The paper was discussed by Mrs. SELIGMAN, Rev. E. W. SMITH, Dr. STANNUS, Mr. HOBLEY, Mr. RICHARDS, Mr. CHILDE and Mr. FIRTH, and Mr. DRIBERG replied.

A hearty vote of thanks was accorded to Mr. DRIBERG for his valuable and interesting paper, and the Institute adjourned till January 25th.[1]

February 8th, 1927.

Ordinary Meeting at 52, Upper Bedford Place.

Mr. H. J. E. PEAKE, President, in the Chair.

The minutes of the last meeting were read and confirmed.

Professor W. J. SOLLAS, F.R.S., read his paper on "The Chancelade Skull," illustrated by lantern slides.

The paper was discussed by Professor PARSONS, Mr. LE GROS CLARK, Dr. MORANT, Dr. SHRUBSALL and the PRESIDENT, and Professor SOLLAS replied.

A hearty vote of thanks was accorded to Professor SOLLAS for his valuable paper, and the Institute adjourned till February 22nd.

[1] Annual General Meeting.

February 22nd, 1927.

Ordinary Meeting at 52, Upper Bedford Place.

Mr. H. J. E. PEAKE, President, in the Chair.

The minutes of the last meeting were read and confirmed.

The election of the following as Ordinary Fellows of the Institute was announced: Col. T. G. Gayer Anderson, Mrs. Charlotte Baynes, Mr. Henry Calvert, Mr. J. Chandra, Mrs. Elsie M. Clifford, Mr. R. F. Gaunt, Mr. J. H. Oldham, Mr. G. E. A. Russell, Miss West and Rev. James Williams.

Professor J. G. DE MONTMORENCY read his paper on "The Custodian of Tradition."

The paper was discussed by Rev. E. W. SMITH, Mr. CLAPPÉ, Mr. FALLAIZE, Lord ONSLOW and the PRESIDENT, and Professor DE MONTMORENCY replied.

A hearty vote of thanks was accorded to Professor DE MONTMORENCY for his valuable and interesting paper, and the Institute adjourned till March 8th.

March 8th, 1927.

Ordinary Meeting at 52, Upper Bedford Place.

Mr. H. J. E. PEAKE, President, in the Chair.

The minutes of the last meeting were read and confirmed.

Mr. RAYMOND FIRTH read his paper on "The Exchange of Gifts in Primitive Societies," illustrated by lantern slides.

The paper was discussed by Dr. MALINOWSKI, Miss DURHAM, Mr. SCHAPERA, Mrs. AITKEN, Mr. SCORESBY ROUTLEDGE, Dr. STANNUS, Mr. DRIBERG, Captain FULLER and the PRESIDENT, and Mr. FIRTH replied.

A hearty vote of thanks was accorded to Mr. FIRTH for his interesting paper, and the Institute adjourned till March 22nd.

March 22nd, 1927.

Ordinary Meeting at 52, Upper Bedford Place.

Mr. H. J. E. PEAKE, President, in the Chair.

The minutes of the last meeting were read and confirmed.

The election of the following as Ordinary Fellows of the Institute was announced: The Hon. R. Gathorne-Hardy, Lieut.-Col. H. H. Knapp, Mr. G. Webster, Mr. V. E. Nash Williams.

Mr. I. SCHAPERA read his paper on "Native Chieftainship in Africa."

The paper was discussed by Dr. HADDON, Professor SELIGMAN, Dr. MALINOWSKI, Mr. SMITH, Mr. FIRTH, Captain RATTRAY and the PRESIDENT, and Mr. SCHAPERA replied.

A hearty vote of thanks was accorded to Mr. SCHAPERA for his suggestive and interesting paper, and the Institute adjourned till April 5th.

April 5th, 1927.

Ordinary Meeting at 52, Upper Bedford Place.

Mr. H. J. E. PEAKE, President, in the Chair.

The minutes of the last meeting were read and confirmed.

Dr. CHAS. SINGER read his paper on "Traditions and Observations as Illustrated by the Herbal, 100 B.C. to A.D. 1500," illustrated by lantern slides.

The paper was discussed by Dr. RUSHTON PARKER, Mr. BRAUNHOLTZ, Dr. HARRISON and the PRESIDENT, and Dr. SINGER replied.

A hearty vote of thanks was accorded to Dr. SINGER for his very interesting paper, and the Institute adjourned till May 10th.

May 10th, 1927.

Ordinary Meeting at 52, Upper Bedford Place.

Mr. H. J. E. PEAKE, President, in the Chair.

The minutes of the last meeting were read and confirmed.

Mr. E. G. BOWEN read his paper on "Anthropological Types and Tuberculosis" illustrated by maps and diagrams.

The paper was discussed by Sir ARTHUR NEWSHOLME, Sir HENRY GAUVAIN, Sir ARTHUR KEITH, Dr. HALLIDAY SUTHERLAND, Professor FLEURE, Dr. SHRUBSALL, Dr. STANNUS and the PRESIDENT, and Mr. BOWEN replied.

A hearty vote of thanks was accorded to Mr. BOWEN for his valuable and interesting paper, and the Institute adjourned till May 24th.

May 24th, 1927.

Ordinary Meeting at 54A, Wigmore Street, W.1.

By kind invitation of Mr. HENRY S. WELLCOME, the Fellows of the Institute attended a Conversazione at the Wellcome Historical Medical Museum.

Mr. H. J. E. PEAKE, President, in the Chair.

Professor ELLIOT SMITH, F.R.S., gave a brief discourse on the medical and magical aspects of the anthropological material in the Museum, and the Fellows inspected the collections.

A hearty vote of thanks (proposed by the PRESIDENT and seconded by Professor PARSONS) was accorded to Professor ELLIOT SMITH for his discourse was carried by acclamation.

A hearty vote of thanks to Mr. HENRY S. WELLCOME for his kind and generous arrangements for the entertainment of the Fellows was proposed by Lord ONSLOW and seconded by Dr. SPENCER, President of the Historical Section of the Royal Society of Medicine, and carried by acclamation.

Mr. L. W. MALCOLM, Director of the Museum, replied on behalf of Mr. Wellcome, who was absent in Washington.

The Institute adjourned till June 14th.

June 14th, 1927.

Ordinary Meeting at 52, Upper Bedford Place.

Mr. H. J. E. PEAKE, President, in the Chair.

The minutes of the last meeting were read and confirmed.

Professor Sir W. BALDWIN SPENCER read his paper on "Recent Researches amongst the Arunta, with special reference to the Alchera and Churinga Beliefs."

The paper was discussed by Sir JAMES FRAZER, Mr. BALFOUR, Professor SELIGMAN, Captain PITT-RIVERS and the PRESIDENT, and Sir BALDWIN SPENCER replied.

A hearty vote of thanks was accorded to Sir BALDWIN SPENCER for his valuable paper, and the Institute adjourned till 28th June.

June 28th, 1927.

Ordinary Meeting at 52, Upper Bedford Place.

Mr. H. J. E. PEAKE, President, in the Chair.

The minutes of the last meeting were read and confirmed.

The election of the following as Ordinary Fellows of the Institute was announced: Mr. Theodore Besterman, Dr. G. G. Brown, Mr. H. R. Butterworth, Mr. C. S. Evans, Dr. H. Frankfort, Mr. H. S. C. Gill, Professor L. T. Hobhouse, Baron Lecca, Mr. D. N. Majumdar, Mr. W. B. Mumford, Mr. A. H. Pike, Mr. J. A. Prendergast, Mr. Jocelyn Preston, Captain A. G. E. Stainforth, Mr. J. L. Starkey, Mr. D. A. Sutherland, Flight-Lieut. R. A. Vosper, Mr. S. W. Walker, Dr. J. S. Wallace, Rev. H. L. C. Williams, Mr. S. Umehara, and Mr. Arthur M. A. Forde.

Professor V. GORDON CHILDE read his paper on "The Ægean and the Danube Valley in the Second Millennium B.C.," illustrated by lantern slides.

The paper was discussed by Dr. ADOLF MAHR, Professor J. L. MYRES and the PRESIDENT, and Professor CHILDE replied.

A hearty vote of thanks was accorded to Professor CHILDE for his valuable and interesting paper, and the Institute adjourned till the autumn.

October 25th, 1927.

Ordinary Meeting at 52, Upper Bedford Place.

Mr. H. J. E. PEAKE, President, in the Chair.

The minutes of the last meeting were read and confirmed.

Dr J. H. HUTTON read his paper on "The Significance of Head Hunting in Assam," illustrated by lantern slides.

The paper was discussed by Dr. HADDON, Mr. BALFOUR, Lieut.-Col. P. R. GURDON, Major RUTTER, Mr. LAYARD, Dr. BLAGDEN and Miss WEDGWOOD, and Dr. HUTTON replied.

A hearty vote of thanks was accorded to Dr. HUTTON for his valuable and interesting paper, and the Institute adjourned till November 1st.

November 1st, 1927.

Ordinary Meeting at 52, Upper Bedford Place.

Mr. H. J. E. PEAKE, President, in the Chair.

The minutes of the last meeting were read and confirmed.

Miss DOROTHY GARROD, M.A., B.Sc., read her paper on "The Archæology and Palæontology of the Mousterian Site at Devil's Tower, Gibraltar," illustrated by lantern slides and specimens.

Mr. L. H. DUDLEY BUXTON, M.A., F.S.A., dealt with the Human Remains, and Professor ELLIOT SMITH, M.D., F.R.S., with the Endocranial Cast.

The papers were discussed by Dr. ALEŠ HRDLIČKA, Professor Sir ARTHUR KEITH, Dr. SHRUBSALL, Mr. REID MOIR, Mr. LE GROS CLARK and the PRESIDENT, and the lecturers replied.

A hearty vote of thanks was unanimously accorded to the lecturers for their valuable and interesting papers, and the Institute adjourned till the Huxley Lecture on November 8th.

November 22nd, 1927.

Ordinary Meeting at 52, Upper Bedford Place.

Mr. H. J. E. PEAKE, President, in the Chair.

The minutes of the last meeting were read and confirmed.

The election of the following as Ordinary Fellows of the Institute was announced: Mrs. M. M. Banks, Mr. Warren Dawson, Mr. H. J. Eason, Mr. J. E. S. Lamb, Mr. E. P. Stibbe, Dr. M. Wright, Mr. T. A. J. Yates, and Dr. Matthew Young.

Miss FRENCH read her paper, "Where the Great Wall Ends," illustrated by lantern slides.

The paper was discussed by Rev. PIERCEY, Dr. BLAGDEN, Miss DURHAM and Dr. RUSHTON PARKER, and Miss FRENCH replied.

A hearty vote of thanks was accorded to Miss FRENCH for her interesting paper, and the Institute adjourned till November 29th.

November 29th, 1927.

Special Meeting at 52, Upper Bedford Place.

Mr. H. J. E. PEAKE, President, in the Chair.

Mr. Y. K. SUOMINEN read his paper on "The Latest Pictures of the Finnish People," illustrated by lantern slides.

The paper was discussed by Dr. SHRUBSALL, Dr. OSKAR KALLAS, the Esthonian Minister, Miss DURHAM, Dr. STANNUS, Mr. G. F. POWELL and the PRESIDENT, and Mr. SUOMINEN replied.

A hearty vote of thanks was accorded to Mr. SUOMINEN for his interesting paper, and the Institute adjourned till December 6th.

December 6th, 1927.

Ordinary Meeting at 52, Upper Bedford Place.

Mr. H. J. E. PEAKE, President, in the Chair.

The minutes of the last meeting were read and confirmed.

Dr. A. C. HADDON read his paper on "Notes on the late A. B. Deacon's Investigations in Malekula, New Hebrides" illustrated by lantern slides.

The paper was discussed by Mr. LAYARD, Prof. ELLIOT SMITH, Miss WEDGWOOD, Mr. PERRY, Prof. SELIGMAN and Mr. PEAKE, and Dr. HADDON replied.

A hearty vote of thanks was accorded to Dr. HADDON for his important paper, and the Institute adjourned till December 20th.

December 20th, 1927.

Ordinary Meeting at 52, Upper Bedford Place.

Mr. H. J. E. PEAKE, President, in the Chair.

The minutes of the last meeting were read and confirmed.

The election of the following as Ordinary Fellows of the Institute was announced: Mr. C. G. Ames, Captain G. G. Feasey, Mr. Alfred Honoré, Mr. Harper Kelley, Dr. Ralph Linton, Dr. A. A. Mumford, Mr. M. D. Raghavan, Mr. J. Rymill, Mr. R. R. Rymill, Mr. W. Storrs-Fox, Mr. R. F. Thomson, Mr. T. A. Williams.

Dr. A. A. MUMFORD read his paper on "Body Measurements, Respiratory Tests, and School Progress," illustrated by diagrams.

The paper was discussed by Professor PARSONS, Dr. SHRUBSALL and the PRESIDENT, and Dr. MUMFORD replied.

A hearty vote of thanks was accorded to Dr. MUMFORD, and the Institute adjourned till January 3rd, 1928.

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NOTE.—*The Numbers in* **bold** *type refer to the pages; the numbers in Clarendon type are the reference numbers of* MAN, 1927, *where necessary the page references to* MAN *are added in brackets. Except when otherwise indicated, entries which refer to reviews are shown in italics. For a full list of reviews refer to the* CONTENTS *of* MAN. *For collected references, see especially Archaeology, Physical Anthropology, Religion and Magic, Sociology, Technology.*

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J or **M** after current periodicals indicates an exchange for the *Journal* or *Man* respectively.

The letter **I** in front of a number indicates that the series is incomplete.

I 1. Abhandlungen der Naturhistorischen Gesellschaft zu Nürnberg. 1898 (in progress). **M.**

I 1a. Aborigines Friend, The. London. 1847–58.

2. Acta Academiæ Aboensis. Humaniora. Abo, Finland. 1920 (in progress).

I 3. Acta et Commentationes Universitatis Dorpatensis. 1915 (in progress). **J.**

4. Actas y Memorias. Sociedad Española de Antropología. Madrid. 1924 (in progress). **J.**

5. American Anthropologist, Washington. 1889 (in progress). **J.**

I 6. American Antiquarian. Salem. 1881–1913.

7. American Archæology. University of California. Berkeley. 1903 (in progress). **J.**

7a. American Breeders Magazine, The. Washington. 1910–13. continued as The Journal of Heredity.

I 8. American Indian Magazine. Washington. 1913–19.

9. American Journal of Physical Anthropology. Washington. 1918 (in progress). **J.**

I 10. American Journal of Psychology. Worcester. 1898 (in progress). **J.**

I 11. Archiv f. d. Beschr. des westpreussischen Provinzial-Museums. Danzig. 1901–16.

I 12. Archivo del Museo Nacional de Arqueología, Mexico. 1903–13, 1925 (in progress).

13. Arxius de l'Institut d'Orientació Professional. Barcelona. 1920.

14. Ancient Egypt. London. 1914 (in progress).

I 14a. Annalen des k.k. Naturhistorischen Hofmuseums. Vienna. 1886–93.

15. Annales de la Société royale d'Archéologie de Bruxelles. 1887–1921.

16. Annales du Musée Guimet. Paris. 1922 (in progress). **J.**

17. Annales du Musée du Congo Belge. Renaix. 1924 (in progress).

I 17a. Anales del Museo Público. Buenos Aires. 1864–70.

17b. Anales del Museo de la Plata. Buenos Aires. 1907 (in progress).

18. Annals of Archæology and Anthropology. Liverpool. 1908 (in progress). **J.**

18a. Annals of Eugenics. London. 1925 (in progress), by subscription.

19. Annals of the Bhandarkar Institute. 1918 (in progress). **M.**

20. Annals of the Natal Museum. London. 1906 (in progress). **M.**

20a. Année sociologique, L'. Paris. 1896 (in progress). **J.** & **M.**

I 21. Annuaire de la Société d'Archéologie de Bruxelles. 1890–1914.

I 21a. Annuaire de l'Académie royale de Belgique. Brussels. 1892 (in progress). **J.**

21s. Annuaire et Mémoires du Comité d'Études Historiques . . . de l'Afrique Occidentale française, Gorée, 1916–17

22. Annual of the British School at Athens, 1894 (in progress). **J.**

I 23. Annual Report of the Boston Public Library, 1896–1917

23c. Annual Report of the Archæological Department, Hyderabad, Calcutta, 1914 (in progress)

23e. Annual Report of the Archæological Survey of India, Central Circle, Poona, 1907–21.

23h. Annual Report of the Archæological Survey of India, Southern Circle, Madras, 1907–21.

23x. Annual Report of the Archæological Survey of India, Western Circle, Bombay, 1907–21.

23p. Annual Report of the Archæological Survey of India, Northern Circle, Lahore, 1907–21.

24. Annual Report of the United States National Museum, Washington, 1897 (in progress).

I 24d. Annual Report of the Board of Regents of the Smithsonian Institution, Washington, 1855 (in progress).

24f. Annual Report of the Canadian Institute, Toronto, 1886–94, 1912

I 24h. Annual Report of the Cincinnati Museum Association, 1899–1919

I 24k. Annual Report of the Field Museum, Chicago, 1894 (in progress)

I 24n Annual Report of the Horniman Museum, London, 1901–13

I 24r. Annual Report of the John Crerar Library, Chicago, 1895 (in progress)

I 24t Annual Report of the Museum of Local Archæology, Cambridge, 1899–1904

I 25. Annual Report, Bureau of American Ethnology, Washington, 1879 (in progress).

I 25c Annual Report of the Public Museum, Milwaukee, 1893–1907

I 25h Annual Report, Southern Indian Epigraphy, Madras, 1921 (in progress)

25x. Annual Report of the U.S.A. Geological Survey, Washington, 1876–1904

I 25r. Annual Report of the Yorkshire Philosophical Society, York, 1891–1909

I 26. Annual Report Papua, Melbourne, 1907 (in progress).

27. Annual of the American Schools of Oriental Research, Newhaven, 1919 (in progress). **M.**

I 28. Antananarivo Annual (Madagascar Magazine), Antananarivo, 1875–1900

28k Antiquity, London, 1927 (in progress).

29. Anthropologia Hungarica, Buda-Pest, 1923 (in progress). **M.**

30. Anthropological Papers of the American Museum of Natural History, New York, 1908 (in progress). **M.**

31. Anthropological Publications of the University of Pennsylvania, Philadelphia, 1909 (in progress). **J.**

31d Anthropological Review, London, 1863–70

32 Anthropologie, L', Paris, 1890 (in progress). **J.**

33 Anthropologie, Prague (Czech), 1923 (in progress). **M.**

34. Anthropologischer Anzeiger, Stuttgart, 1924 (in progress). **M.**

I 35 Anthropology Report, Papua, Port Moresby, 1917 (in progress)

36 Anthropos. Modling, Austria, 1906 (in progress). **M.**

37 Antikvarisk Tidskrift for Sverige. Stockholm, 1864–1924.

38. Antiquaries Journal, The. London, 1921 (in progress). **M.**

I 39 Anzeiger für schweizerische Altertumskunde. Zurich, 1900 (in progress).

39K. Arbeiten aus dem Anatomischen Institut der k. j. Univ., Sendai, 1919 (in progress)

I 39M. Anzeiger der ethnographischen Abteilung des Ungarischen National-Museums. Buda-Pest, 1903–10.

39S. Arc de Méridien Équatorial en Amérique du Sud. Paris, 1911–22.

I 39V Archæologia Americana. Worcester, 1820, 1836–60.

I 40 Archæologia. London, 1857 (in progress). **J.**

40D. Archæologiai Értesito. Buda-Pest, 1923 (in progress). **J.**

40P. Archæologica Hungarica. Buda-Pest, 1926 (in progress). **J.**

Archæological Survey of India. *See under* Memoirs and Annual Reports.

I 41. Archæological Journal, London, 1845 (in progress). **J.**

42. Ἀρχαιολογικὴ Ἐφημερὶς, Athens, 1883 (in progress). **J.**

43. Archæological Reports, Toronto, 1894–1923

43M. Archæological Survey of Burma, Rangoon, 1908–22.

I 43S. Archæological Survey of Ceylon, Colombo, 1890–1922.

I 44. Archäologische Monographien. K. Vitterhets-, Historie och Antikvitets Akademie. Stockholm, 1914 (in progress). **M.**

I 45 Archeologo Português, O. Lisbon, 1895 (in progress). **M.**

I 46. Arxius de l'Institut de Ciencies, Barcelona, 1915–24.

47. Archiv für Anthropologie, Brunswick, 1866 (in progress). **J.**

I 48. Archiv für Religionswissenschaft, Leipzig, 1910 (in progress). **J.**

I 49. Archiv für Rassenbiologie, Leipzig, 1904–14

50. Archives suisses d'Anthropologie générale, Geneva, 1914–22.

Archives suisses des traditions populaires. *See* under Schweizerisches Archiv für Volkskunde.

I 51. Archivio di Antropologia Criminale, Turin, 1883 (in progress). **J.**

52. Archivio per l'Antropologia e la Etnologia, Florence, 1871 (in progress) **J.**

I 52E Archivio della R. Soc. romana di Storia Patria, Rome, 1890–96.

I 53. Archivo de Medicina Legal, Lisbon, 1922–23.

I 54. Archivos do Museu Nacional de Rio de Janeiro, 1877 (in progress). **J.**

I 55. Archiwum Nauk Antropologicznych, Lwów, 1914 (in progress). **J.**

56. Arquivo de Anatomia e Antropologia, Lisbon, 1912 (in progress). **M.**

I 57 Ars Quatuor Coronatorum, Margate, 1899–1924.

58. Atlantis, London, 1858–60.

59. Atti della Reale Accademia dei Lincei, Rendiconto, Rome, 1900 (in progress). **M.**

I 59A. Atti della Reale Accademia dei Lincei, Notizie degli Scavi di Antichità, Rome, 1880 (in progress). **J.**

I 59S. Alte Orient, Der, Leipzig, 1903–23

60. Altschlesien, Breslau, 1922 (in progress). **M.**

60S. Australian Association for the Advancement of Science, 1887 (in progress). **J.**

60T. Bayerische Vorgeschichtsfreund, Der, Munich, 1921 (in progress)

I 61. Baessler-Archiv, Berlin, 1910–13.

62. Bantu Studies, Johannesburg, 1923 (in progress). **M.**

63. Bergens Museum Aarbok, Bergen, 1916 (in progress). **J.**

63H. Berichte über die Mitteilungen von Freunden der Naturwissenschaften in Wien, 1847–51.

I 64. Biblia, Meriden, U.S.A., 1901–05.

65. Bibliotheca Africana, Innsbruck, 1924 (in progress). **M.**

65G. Bidrag till Södermanlands Aldre Kulturhistoria, Stockholm, 1877–1915.

I 65N. Bidrag till Findlands Natur och Folk, Helsingfors, 1884–1905.

I 65P. Bidrag till Var Odlings Hafder, Stockholm, 1885–1906.

I 66. Bijdragen tot de Taal, Land en Volkenkunde, van Nederlandsch-Indie, Batavia, 1893 (in progress), **J.**

67. Biometrika, London, 1901 (in progress), by subscription.

68. Blätter für deutsche Vorgeschichte, Leipzig, 1925 (in progress). **M.**

69. Boletim do Museu Nacional de Rio de Janeiro, 1924 (in progress).

I 70. Boletin del Museo Nacional de México, 1903–04.

I 71. Boletim da Sociedade de Geographia, Lisbon, 1880–96.

I 72. Boletin de la Academia Nacional de Historia, Quito, 1920 (in progress)

I 73. Boletin de la Academia Nacional de Ciencias en Cordoba, Buenos Aires, 1889–1906.

I 74. Boletin de la Sociedad Mexicana de Geografia y Estadistica, Mexico, 1913–24.

75. Boletin de la Sociedad de Estudios Vascos, San Sebastian, 1921 (in progress). **M.**

75F. Boletin de la Sociedad Ecuatoriana, Quito, 1918–20, continued as Boletin de la Academia Nacional de Historia.

I 75H. Boletins de la Real Academia de Ciencias y Artes, Barcelona, 1917–25.

76. Bollettino di Paletnologia italiana, Parma, 1875 (in progress). **J.**

77. Bollettino della R. Soc. Geografica italiana, Rome, 1916 (in progress). **M.**

I 78. Bollettino della Soc. piemontese di Belle Arti, Turin, 1918 (in progress). **M.**

79. British Journal of Psychology, London, 1904 (in progress). **J.**

80. British Medical Journal, London (in progress). **J.**

I 81. Buletinul Soc. R. romîne de Geografie, Bucarest, 1915–21.

82. Bulletin of the School of Oriental Studies, London, 1921 (in progress). **M.**

83. Bulletin of the Board of Celtic Studies, London, 1921 (in progress).

84. Bulletin, Dominion Museum, Wellington, 1904 (in progress). **J.**

I 85. Bulletin of the Bureau of American Ethnology, Washington, 1901 (in progress).

I 86. Bulletin of the United States National Museum, Washington, 1922 (in progress).

I 88. Bulletin de la Société préhistorique française, Paris, 1908 (in progress). **M.**

89. Bulletin de la Statistique générale de la France, Paris, 1911–27.

I 90. Bulletin de l'Institut de Sociologie Solvay, Brussels, 1910–14, continued as Revue.

90A. Bulletin of the U.S.A. Geological Survey, Washington, 1893–1903.

90F. Bulletin of the Bernice Pauahi Bishop Museum, Honolulu, 1923 (in progress).

I 90H. Bulletin of the American Museum of Natural History, New York, 1897–1907.

90K. Bulletin of the Archaeological Survey of Nubia, Cairo, 1908–11.

I 90R. Bulletin de l'Académie d'Hippone, Bone, 1865.
90T. Bulletin de l'Université de l'Asie Centrale, Tashkent, 1925 (in progress).
I 90V. Bulletin of the Free Museum of Science and Art, University of Pennsylvania, Philadelphia, 1897–1902.
I 91. Bulletin de la Société [illegible] belge de Géographie, Brussels, 1904 (in progress) **M.**
I 92. Bulletin de la Société belge d'Études coloniales, Brussels, 1902–19.
93. Bulletin de la Classe des Sciences, R. Acad. belge, Brussels, 1901 (in progress) **J.**
I 94. Bulletin Agricole du Congo belge, London, 1915–17.
I 95. Bulletin de la Société d'Anthropologie de Lyons, 1851 (in progress). **J.**
I 96. Bulletin de la Société polymathique de Morbihan, Vannes, 1853–1921.
I 96D. Bulletin of the Northern Territory, Melbourne, 1912–13.
I 96F. Bulletin de la Société khédiviale de Géographie, Cairo, 1898–1912, continued as Bulletin de la Société sultanieh de Géographie
I 96G. Bulletin of the Phillips Academy, Andover, Mass., 1904–19.
96N. Bulletin de la Société ethnologique de Paris, 1846–7.
I 96P. Bulletin de l'Académie royale des Sciences, des Lettres, et des Beaux-Arts, Brussels, 1893-9.
I 96R. Bulletin de l'École française d'Extrême-Orient, Hanoi, 1901–2.
96T. Bulletins de la Société d'Anthropologie de Paris, 1860–99, continued as Bulletins et Mémoires de la Société d'Anthropologie de Paris.
I 97. Bulletin de la Société de Borda, Dax, 1894–1915
98. Bulletin de la Société neuchâteloise de Géographie, Neuchâtel, 1891 (in progress). **J.**
I 99. Bulletin de la Société sultanieh de Géographie, Cairo, 1917–22, continued as Bulletin de la Société royale de Géographie d'Egypte.
I 100. Bulletin du Comité d'Études Historiques . . . de l'Afrique Occidentale française, Paris, 1918 (in progress). **M.**
101. Bulletins et Mémoires de la Société d'Anthropologie de Paris, 1900 (in progress), **J.**
102. Bulletins et Mémoires de la Société d'Anthropologie de Bruxelles, 1882–1914, continued as Bulletins de la Société d'Anthropologie de Bruxelles.
I 103. Bulletin international de l'Académie des Sciences, Krakow, 1891 (in progress). **J.**
104. Bulletins de la Société impériale des Naturalistes, Moscow, 1868–1914, continued as Bulletins de la Société des Naturalistes, Moscow, 1917 (in progress). **J.**
Bulletin . . . *See also* under Izvestia.
105. Bulletins de la Société des Études Océaniennes, Tahiti, 1918 (in progress). **M.**
105D. Bulletin de la Société royale de Géographie d'Egypte, Cairo, 1923 (in progress). **J.**
105H. Bulletins de la Société d'Anthropologie de Bruxelles, 1919 (in progress). **J.**

Canadian Department of Mines, Geological Survey. *See* under Reports, Memoirs, Museum Bulletins.
I 106. Catalogue of Polish Scientific Literature, Krakow, 1901–11.
I 106D. Canadian Journal of Industry, Science and Arts, The, Toronto, 1856–78.
I 107. Central-Blatt für Anthropologie, Jena, 1896–1912

I 108. Český Lid. Prague, 1892–4.
I 109. Ceylon Antiquary and Literary Register. Colombo, 1915–24.
110. Ceylon Journal of Science, Colombo, 1924 (in progress).
111. Church Missionary Review, London, 1901–27.
I 111D. Climate. London, 1902–5.
I 112. Columbia University Contributions to Anthropology, New York, 1913 (in progress). **J.**
I 113. Congrès International d'Anthropologie et d'Archéologie préhistoriques, Comptes-rendus, various towns, 1868–92, 1906, 1912.
I 114. Congrès International des Américanistes, Comptes-Rendus, various centres, 1877, 1904, 1910–15, 1924.
115. Congrès préhistorique de France, various towns, 1905–14.
I 116. Contributions from the Museum of the American Indian, Heye Foundation, New York, 1913 (in progress). **J.**
116E. Contributions to North American Ethnology, U.S.A. Geological Survey, Washington, 1877–93.
117. China Journal of Science and Arts, Shanghai, 1925 (in progress), **M.**
118. Congo, Brussels, 1920 (in progress), by subscription.
I 118S. Current Anthropological Literature, Lancaster, Pa., 1912–13.

I 119. Djava, Weltevreden, 1921 (in progress). **M.**
I 119S. Dolgozatok (Travaux de l'Institut Archéologique de l'Université François-Joseph), Szeged, 1911 (in progress), **M.**
120. Dominion Museum Monographs, Wellington, N.Z., 1921 (in progress), **J.**
I 120E. Drapers Company Research Memoirs (Biometric Series), London, 1904–19.

I 120S. Egypt Exploration Fund, Archæological Reports, London, 1892–1909.
I 121. Epigraphia Zeylanica, London, 1904 (in progress).
I 122. Epigraphica Indica, Calcutta, 1888 (in progress).
I 123. Essex Naturalist, The, Chelmsford, 1887–93.
124. Ethnographie, L', Paris, 1913 (in progress). **M.**
124E. Ethnologischer Anzeiger, Stuttgart, 1926 (in progress).
124S. Ethnologisches Notizblatt, Berlin, 1895–1902.
I 125. Ethnos, Mexico, 1920 (in progress), **M.**
125S. Eugenical News, New York, 1927 (in progress), **M.**
I 125V. Eugenics Laboratory Memoirs, London, 1907 (in progress).
I 12E. Eugenics Review, London, 1909 (in progress), **M.**
12SF. Eurasia Septentrionalis Antiqua, Helsingfors, 1927 (in progress), **M.**
I 127 Eusko-Folklore, Vitoria, 1921 (in progress).

129. Fataburen, Stockholm, 1906 (in progress), **J.**
130. Field Museum, Anthropological Series, Chicago, 1897 (in progress), **J.**
130D. Field Museum, Anthropology, Memoirs, Chicago, 1925 (in progress).

131. Finskt Museum, Manadsblad. Helsingfors. 1902 (in progress). **M.**
132. Folklore Record and Folklore Journal. 1868–89, continued as Folklore. London. 1890 (in progress). **J.**
133. Fornvannen. Stockholm. 1906 (in progress). **M.**

134. Genava. Geneva. 1924 (in progress). **M.**
Geological Survey of China. *See* under Palæontologia Sinica.
I 135. Geographical Journal. London. 1831 (in progress). **M.**
136. Géographie. La. Paris. 1921 (in progress). **M.**
I 136E. Gids, Bataviaasch Genootschap van Kunsten en Wetenschappen. Amsterdam, 1917 (in progress)
I 136H. Giornale di Scienze ed Economiche. Palermo. 1866–77.
I 137. Globus. Brunswick. 1901–10.
138. Gold Coast Review. Accra. 1925 (in progress). **M.**

I 139. Hakluyt Society's Publications. London. 1859 (in progress). by subscription.
140. Hereditas. Lund. 1920 (in progress). by subscription.
I 140C. Hibbert Journal. The. London. 1914–16.
140E. History of the Berwick-shire Naturalists' Club. Alnwick. 1890–1910.
I 140N. Homme. L'. Paris. 1885–7.
I 141. Hessische Blätter fur Volkskunde. Giessen. 1905 (in progress). **J.**
142. Handlingar. Stockholm. 1922 (in progress).

143. Inca. Lima. 1923 (in progress). **J.**
I 144. Indian Antiquary. Bombay. 1885 (in progress). **J.**
145. Indian Notes and Monographs. Heye Foundation. New York. 1920 (in progress).
146. Internationales Archiv für Ethnographie. Leiden. 1888 (in progress). **J.**
147. International Journal of American Linguistics. New York. 1917 (in progress).
I 148. International Journal of Psycho-Analysis. London. 1922 (in progress). **M.**
International Congresses. *See* Congrès International.
148C. International Catalogue of Scientific Literature. London. 1903–17.
148M. Ipek. Leipzig. 1925 (in progress).
149. Izvestia Imp. Obschestva Lubitelei Estestvoznania. Antropologii, i Etnografii. 1878–1915. Moscow University.
150. Izvestia Imp. Akademii Nauk. St. Petersburg. 1894–1915. continued as Izvestia Rosskoi Akademii Nauk. Leningrad. 1924 (in progress). **J.**

I 151. Jahresschrift für die Vorgeschichte der sachsisch-thüringischen Lander. Halle. 1901 (in progress). **J.**
152. Jaarboek van de k. Akademie van Wetenschappen. Amsterdam. 1891 (in progress). **J.**
153. Jahresberichte der schweiz. Gesellschaft fur Urgeschichte. Aarau. 1910 (in progress). **M.**

I 154. Jahresberichte des Vereins fur Erdkunde. Dresden. 1870–1901.
I 155. Jahresberichte der geographischen Gesellschaft. Bern. 1885–1902.
I 155E. Jahresberichte des Vereins für Erdkunde. Metz. 1879–1912.
I 155M. Jahresberichte der geographischen Gesellschaft in München. 1896–1903.
I 155P. Jahresberichte der geographisch-ethnographischen Gesellschaft in Zürich. 1900–10.
I 155R. Jahrbuch der Gesell-chaft fur lothringische Geschichte und Altertumskunde. Metz. 1906–7
I 155S. Japan Journal of Medical Sciences. Tokyo. 1922 (in progress).
156. Jahrbuch für Altertumskunde. Vienna, 1907–13.
157. Jahrbuch des stadtischen Museums für Völkerkunde. Leipzig. 1906 (in progress). **J**
158. Jahrbuch der asiatischen Kunst. Leipzig. 1924 (in progress)
160. Journal of the African Society. London. 1901 (in progress). **J.**
I 161. Journal of the East India Association. London. 1895 (in progress). **M.**
162. Journal of Hellenic Studies. London. 1880 (in progress). **J.**
163. Journal of Roman Studies. London. 1911 (in progress). by subscription
I 164. Journal of the Royal Asiatic Society. London. 1847–52. 1860 (in progress). **J.**
165. Journal of the Royal Statistical Society. London. 1888 (in progress). **J.**
166. Journal of the Royal United Service Institution. London. 1900–19
167. Journal of Egyptian Archæology. London. 1914 (in progress) **J.**
168. Journal of the Gipsy Lore Society. Liverpool. 1908 (in progress). **M.**
I 169. Journal of Genetics. Cambridge. 1924 (in progress). by subscription.
I 170. Journal of the Royal Society of Arts. London. 1897–8.
I 171. Journal of Mental Science. London. 1857–1903.
I 172. Journal of the Royal Institute of Cornwall. Truro. 1866 (in progress). **J.**
173. Journal of the Manchester Egyptian and Oriental Society. 1912 (in progress).
I 174. Journal of the Royal Society of Antiquaries of Ireland. Dublin. 1887 (in progress). **J.**
175. Journal of the Society of Oriental Research. Bryn Mawr. Pa.. 1925 (in progress). **M.**
I 176. Journal of American Folklore. New York. 1914 (in progress) **J.**
177. Journal of Heredity. Baltimore. 1924 (in progress). **J.**
I 178. Journal of American Oriental Society. New Haven. 1843–66.
I 179. Journal of the Anthropological Society of Bombay. 1886 (in progress). **J.**
180. Journal of the Asiatic Society of Bengal. Calcutta. 1861 (in progress). **J.**
I 181. Journal of the Royal Asiatic Society. Bombay. 1841 (in progress). **J.**
I 182. Journal of the Royal Asiatic Society. Straits (now Malayan) Branch. Singapore. 1904 (in progress). **J.**
I 183 Journal of the Royal Asiatic Society. North China Branch. Shanghai. 1859 (in progress). **J.**
184. Journal of the Bihar and Orissa Research Society. Ranchi. 1915 (in progress). **J.**
I 185. Journal of the Burma Research Society. Rangoon. 1922 (in progress). **J.**
186. Journal of the Punjab Historical Society. Lahore. 1911-16.
186 Journal of the Ethnological Society of London. 1848–56. 1869–70
I 187. Journal of the Ceylon Branch. Royal Asiatic Society. Colombo. 1845–1919.

I 189. Journal of the Siam Society, Bangkok. 1904 (in progress). **M.**
189. Journal of the Department of Letters, Calcutta University, 1920 (in progress), **J.**
190. Journal of the Hyderabad Archæological Society, Bombay, 1916–20.
I 190E. Journal of American Ethnology and Archæology, New York, 1891–2.
191. Journal of the Anthropological Society of Tokyo, 1897 (in progress). **J.**
I 191A. Journal of the East Africa and Uganda Natural History Society, London, 1912 (in progress). **M.**
I 191B. Journal of the Indian Archipelago, Singapore, 1848–57.
I 192. Journal of the College of Sciences, Imperial University of Japan, Tokyo, 1900–22.
I 193 Journal of the Royal Agricultural Society, British Guiana, Demerara, 1882–96.
I 194. Journal of the Polynesian Society, New Plymouth, 1892 (in progress), **J.**
I 195. Journal and Proceedings of the Royal Society of New South Wales, Sydney, 1876 (in progress). **J.**
196. Journal de la Société des Américanistes de Paris, 1896 (in progress), **J.**
Journal russe anthropologique. *See* Russian Anthropological Journal.
I 197 Journal de Psychologie, Paris, 1920–5.
197. Journal of the Anthropological Institute of Great Britain and Ireland, London, 1871–1906, continued as Journal of the Royal Anthropological Institute of Great Britain and Ireland, London, 1907 (in progress).

I 198. Katalog des ethnographischen Reichs-museums, Leiden, 1910–18.
199. Knowledge, London, 1911–17.
200. Koloniál Instituut, Jaarverslag and other publications, Amsterdam, 1914 (in progress). **J.**
200E. Korean Repository, Seoul, 1896–7.
200F. Kgl. Norske Videnskabers Selskabs Skrifter, Trondheim, 1902 (in progress). **M.**

202. Lancet, London. **M.**
203. Language, Baltimore, 1925 (in progress). **M.**
203F. Language Monographs, Philadelphia, 1925 (in progress).
203G. Leopoldina, Leipzig, 1926 (in progress). **J.**
I 204 L'Homme préhistorique, Paris, 1903–11.
205. Lud, Lwów, 1922 (in progress). **M.**

206. Man, London, 1901 (in progress).
206. Man in India, Ranchi, 1921 (in progress), **M.**
I 207. Manadsbl. af Kongl. Vitterhets, Historie och Antikvitets Akademiens, Stockholm, 1872–1905.
208. Mitteis, Leipzig, 1919 (in progress).
I 209 Materjały antropologiczno-archeologiczne i etnograficzne, Krakow, 1896 (in progress).
I 210. Matériaux pour l'histoire primitive et naturelle de l'homme, Paris, 1870–87, continued as L'Anthropologie
I 210E. Masonic Bibliophile, The, Cincinnati, 1912–13.

I 210H. Mathematische und Naturwissenschaftliche Berichte aus Ungarn. Berlin. 1884–1913.

I 210N. Meddelanden från Nordiska Museet. Stockholm. 1897–1903, continued as Fataburen.

I 210S. Meddelanden från Östergotlands Fornminnes och Museï Förening. Upsala. 1906 (in progress). **M.**

211. Meddelelser om Danmarks Antropologi. Copenhagen. 1907 (in progress). **M.**

212. Mélanges de la Faculté orientale, continued as Mélanges de l'Université de St. Joseph. Beyrouth. 1906 (in progress). **M.**

I 214. Mélusine. Paris. 1890–1901.

I 215. Mémoires de l'Académie royale belge. Brussels. 1904 (in progress).

216. Mémoires de la Société des Antiquaires du Nord. Copenhagen. 1836 (in progress). **J.**

I 217. Mémoires de la Société d'Anthropologie de Paris. 1860–98, continued as Bulletins et Mémoires de la Société d'Anthropologie de Paris.

217E. Mémoires de la Société ethnologique, de Paris. 1841–5.

217N. Mémoires couronnés de l'Académie royale belge, Brussels. 1859–1905.

Mémoires de la Société royale du Canada. *See* under Proceedings and Transactions of the Royal Society of Canada.

I 218. Memorias de la R. Academia de Ciencias y Artes, Barcelona. 1919–25.

I 218H. Memorias y Revista de la Sociedad Científica "Antonio Alzate." Mexico. 1912–22.

219. Memorias de la Junta para Ampliación de Estudios, etc. Madrid. 1914–21.

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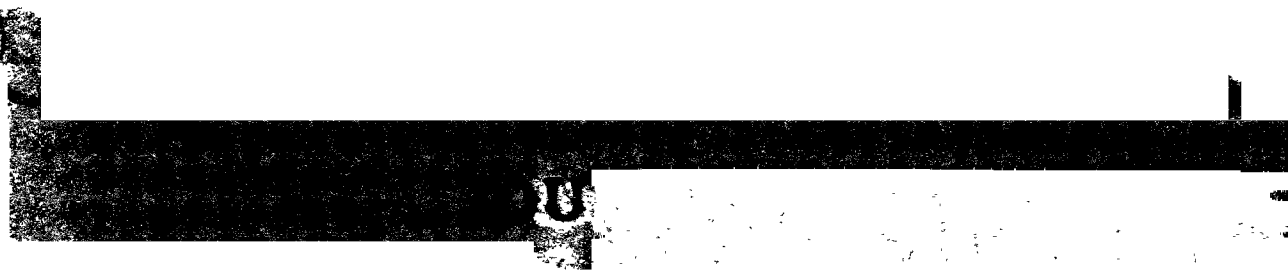
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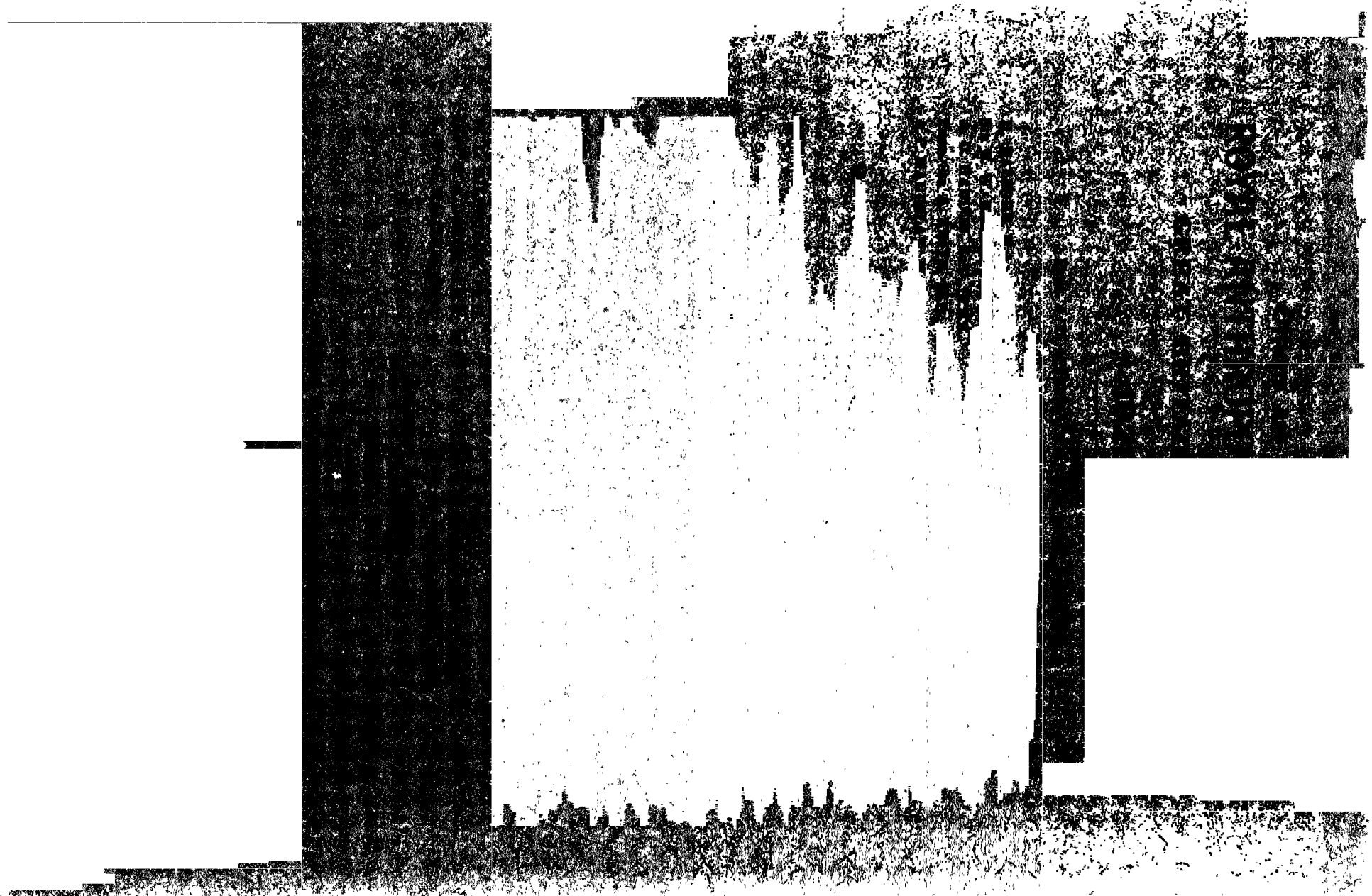
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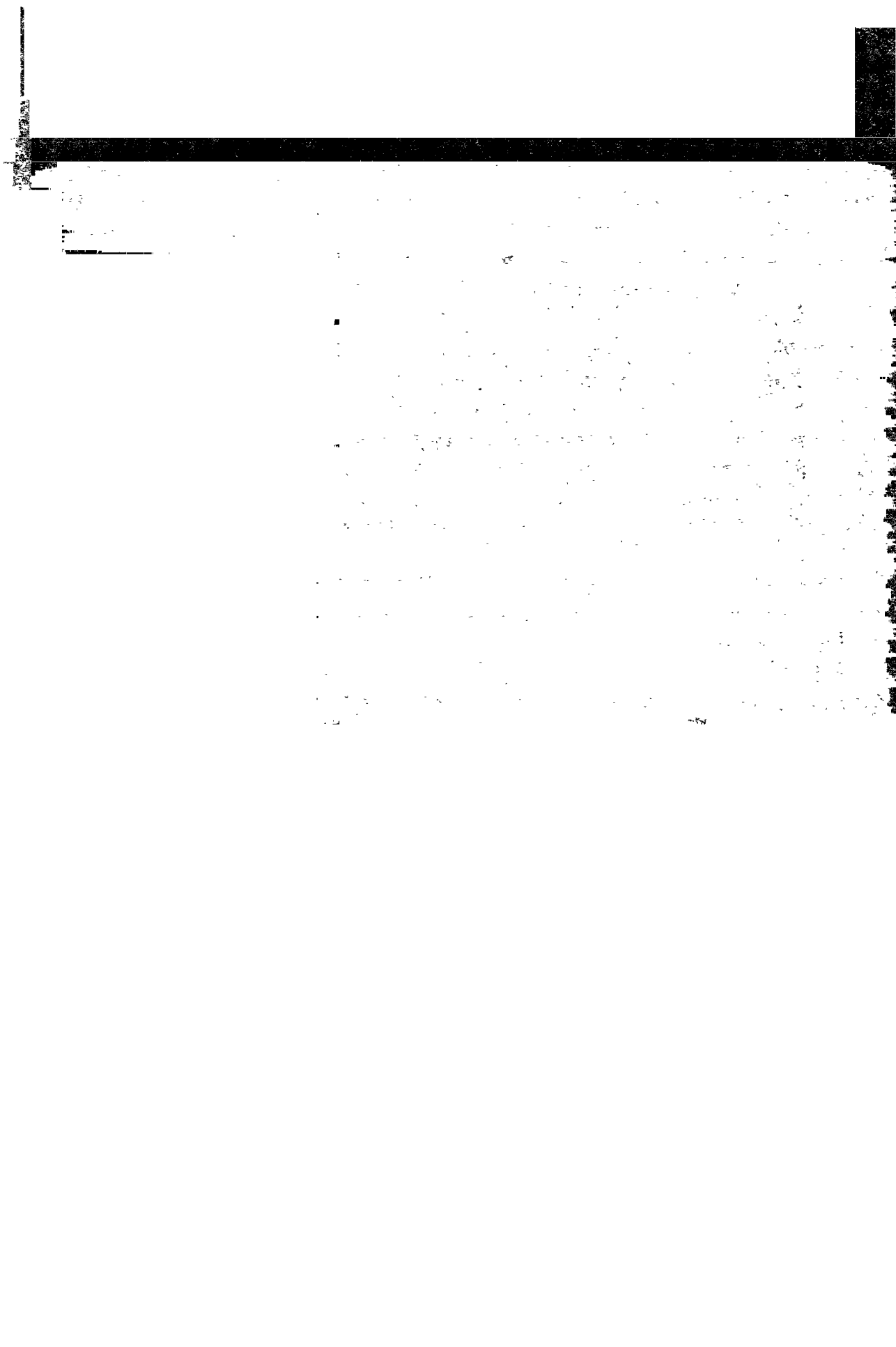
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